# THE LANCET.

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## LECTURES ON SURGERY, MEDICAL AND OPERATIVE,

DELIVERED AT

*St. Bartholomew's Hospital:*

BY MR. LAWRENCE.

### LECTURE XLVI.

*Osseous System.—Wounds of Bones.—Exfoliation.—Treatment.—Fractures.—Particular rules of Treatment.—Causes, direct and predisposing, or remote.*

GENTLEMEN, although the *bones* appear at first view so different from the soft parts of the body, yet the organic elements of which they are composed are essentially the same. Cellular structure, arteries, veins, and absorbents, make up the basis of the composition in both instances. Hence we find that bones exhibit the same leading phenomena, whether in health or disease, as the soft parts. They are equally capable of repairing injuries. They go through the processes of inflammation, swelling, suppuration, ulceration, granulation, and mortification. They are also susceptible, like the soft parts, of various organic changes: thus they exhibit sarcomatous, steatomatous, cancerous, fungoid, and melanose affections in their structures. These various diseased processes like the healthy processes, as nutrition, absorption, and so forth, are essentially the same in bones as in the soft parts; the only difference is in the form or appearance under which those processes present themselves, a difference which is obviously referable to difference of structure.

The chief character which distinguishes both the healthy and the morbid processes that occur in bones, is the comparative *slowness* with which they take place. You find that all the processes of disease, as well as those of health, go on much more slowly in bone than in the soft parts.

*Wounds.*—From the hardness of their structure bones are scarcely susceptible of that kind of injury which is of such frequent occurrence to soft parts—*incised wounds*; yet bones are often exposed in wounds, and we have an opportunity of seeing the mode in which the injuries are remedied. The bones are necessarily divided in the operation of amputation; as when the thigh, for example, is amputated, we have the thigh-bone sawn through. We unite the soft parts over the bone; those soft parts, perhaps, unite by adhesion; they cover the bone and become adherent to it; and, in fact, the wound goes through just the same processes that it would have done if it had consisted of a wound of the soft parts only. We see no circumstance which indicates to us the peculiar character of the division of the bone in such instances. It may happen that the wound of the soft parts does not unite by *adhesion*; although the parts are brought together, they may separate and subsequently unite by *granulation*. Under these circumstances granulations are produced from the bone as well as from the rest of the wound.

Those red, roundish prominences to which the term *granulation* is given, spring out of the medullary substance and from the surface of the bone generally; they unite with the granulations that are produced from the surrounding soft parts, and enter into the composition of the common cicatrix.

It may happen that the soft parts retract, and that the bone projects through the wound, and becomes denuded of its investing membrane or periosteum; that portion of the bone perishes—it *dies*, and then it is separated from the sound part by a process which I shall presently mention. It is not uncommon to have bone exposed in wounds. A bone may be exposed in a wound, but still be covered by its periosteum, and the soft parts being brought together, the process of union goes on, and is just the same as if there were no bone in the case. The bone, however, may be completely exposed; that is, it may be denuded of its periosteal covering, the periosteum being actually detached, and the bone itself either not at all injured or superficially marked. In this case as we lay the integuments down,

we bring them together over the surface of the denuded bone, and they will probably unite by adhesion; the process of union will go on just as if the portion of bone had not been exposed. Under such circumstances, however, it occasionally happens that the parts do not unite, that the wound becomes an open wound and granulates, and that then a certain surface of the bone is bare or exposed—it is *denuded of its covering* as the common phrase is: we see a portion of bone of a whitish or yellowish appearance, and it seems to us as if it were dead. If this portion of the bone be not considerable, if the surface of the wound be kept moist, and if it be not exposed to the atmosphere, so as to become dry, we find that the bone presents a kind of transparency; it has a pinkish hue, and after some days some pink spots will be seen in the bone, which gradually assume the shape of granulations; they are, in fact, granulations springing out of the denuded surface of the bone. In this way we shall find that the exposed surface will be gradually covered by a production of granulations very similar to that which takes place from the wounds of soft textures; and the granulations unite or inosculate with those which arise from the neighbouring soft parts through which the wound has been inflicted. It is not uncommon to see this process in exposed portions of the cranium; and I have seen instances in which a very considerable surface of the cranium, and that too in old persons, where these granulations have been produced, where the wound has become covered by a production of new flesh and a wound accompanied with very extensive exposure of this bone, completely healed without any (of what is technically called) *exfoliation* of the bone thus denuded. I remember an instance of a wound of a contused and lacerated kind, in which nearly the whole of the external surface of the patella was exposed, it was quite stripped of the periosteal covering, and it exhibited an appearance from which one would have supposed it must separate. This, however, did not take place; granulations sprung up from the patella, they united with the granulations from the soft parts, and no separation took place. I have seen exposure of the tibia in compound fractures in which I supposed exfoliation must necessarily have taken place, but the surrounding soft parts have advanced over the bone, and then the wound has healed partly by granulations from the exposed surface of the bone, and partly by granulations from the soft parts. Occasionally, however, the surface of bone when thus denuded becomes perfectly dead. It becomes of a dull, dead white, or it assumes a brownish colour. We see undoubtedly that it has lost its vitality, and that no pink appearance remains in it. Under such circumstances, the dead bone is to be separated from the sound portion by a process essentially similar to that which takes place in the soft parts. This process in the case of bone is called *exfoliation*; and it is by this means that a portion of projecting bone after amputation, for example, is detached from the living bone. It is a process of separation of a portion of the bone that is denuded, similar to what under other circumstances, would be called sloughing.

*Exfolio* is from the Latin, and means the *separation* of a *leaf*; and, in fact, the portion of bone detached in these cases, is often a thin portion like a leaf, and hence the term exfoliation has been given.

We find, as in the case of mortification of the soft parts, that a *groove* is formed between the dead and the living parts; it seems as if a portion of the substance were eaten away, and from the groove which is thus formed granulations spring up, and those granulations form one mass with those arising from the adjacent soft parts. Thus there is a sort of ridge or line of granulations surrounding the denuded bone. The absorbent process gradually eats into the bone, deepening the groove which I have just mentioned, extending it under the dead part of the bone and, in fact, continuing that extension till the dead part of the bone is completely undermined and separated from the living. When this is complete, the exposed dead part is found to be loose when touched, or it will become loose with a very little force applied to it, and then the separation is complete. When it comes away, you do not find that the portion of bone which remains behind, is rough or hard like bone; on the contrary when the dead part is separated there remains behind a bed of granulations which has gradually passed, from the original groove that separated the dead from the living parts, under the dead part, and accomplished the separation. There is a complete bed of soft points or granulations; and the portion of bone which has been separated, the exfoliated portion, bears evident marks of that action of the absorbent vessels which belongs to those granulations. If you look at any piece of bone thus detached, you see that it presents a number of irregular sharp prominences which correspond to the intervals between the soft granulations. Here are specimens of that kind.

The process, then, of separation of the dead or exfoliated part from the living portion is a process of *absorption*. The bony substance is taken up by the absorbents of the granulations; and thus there is an actual vacancy made between the dead and the living parts.

Now, it has been said that this process

of absorption must be preceded by some *softening* of the bone that is to be removed. It has been represented that we cannot suppose the absorbents are capable of taking up the solid substance of bone and of removing it, and that necessarily there must be some solvent juice poured out by which the part to be removed is previously reduced to a soft state, so as to give way to the action of the absorbent vessels. But if we look to those parts that have been removed, we cannot see any trace of evidence to support that notion. We see sharp roundish points projecting from various parts that have actually been removed, and which we should not see if any solvent process had taken place. I think there can be no doubt that it is entirely owing to the action of the absorbents; and I can see no more difficulty in reconciling the notion of absorbents removing bone, than I can of reconciling the doctrine of arteries (as we all know) depositing bone. These are specimens which show the nature of the portion of bone that perishes, and of the granulations which extend between the dead and the living portions, so as to separate them. Here is a portion of bone where it is separated, and where you see the soft vascular substance remaining, and also the vacuity from which the dead bone has been detached. That is the nature of exfoliation, wherever it occurs, whether it takes place in the long bones, such as the femur, after it is divided in amputation, or of any portion of the broad bones, such as a portion of the cranium.

You will observe, from what I have now stated to you, that the separation of the periosteum from a portion of the bone does not necessarily occasion the death of the bone. It is true that the principal supply of blood-vessels proceeds from the periosteum; so that if you have this membrane extensively detached from the bone, that portion will usually die; but the periosteum is not the sole source from which the bone derives its supply of blood-vessels. There are openings for the admission of arteries which from their nature anatomists call *interosseous* arteries, which ramify in the medullary cavity, and inosculate on the bone with the small branches that proceed from the periosteum. Thus the *partial* separation of the periosteum does not, I repeat, involve the death of the bone, because blood may be conveyed into it by those interosseal branches of arteries.

*Treatment.*—The *treatment* of a wound in which the bone is exposed ought not to be conducted on the supposition that the portion of bone will necessarily separate or exfoliate; yet this is the principle which, in many instances, has been considered good treatment of such wounds. You have been directed to insert into the wound extraneous substances in order to keep it open, so that the bone may be the more readily separated. What are called tents, portions of lint, sponge; plugs of that kind have been introduced to prevent the edges of the wound from uniting, and to allow of the *natural* exfoliation of the bone. Further, when the bone has been denuded, various acids, caustic substances, and so forth, have been applied to the bone with a view of promoting its separation, all these, however, proceeding upon an erroneous principle. If the bone is to be exfoliated and separated, it will find its way out without our taking any trouble to keep the wound open for that purpose; and if it has actually perished, the separation cannot be hastened by any strong acrid substance applied to the bone.

The only judicious course in the treatment of a wound accompanied with exposure of bone is, to bring the soft parts over the wound, and to do all you can to facilitate the adhesion of those parts. In a great number of instances the adhesion will take place readily; but if this should not occur, you will find that the bone will make its way out without introducing any tent or extraneous substances to favour its discharge.

*Fractures.*—Although the bones are not liable to those kinds of injury which are so common to soft parts, that is, incised, punctured, and other wounds, they are frequently subject to a species of injury peculiar to themselves; that is, they are liable, under the application of external force, like any other hard substances, to be *broken*. They give way under the application of certain external violence—they break; and this kind of injury is termed *fracture of the bone*, which, I apprehend, you will understand just as well under that simple term, as if I were to give you the scientific definition of a fracture, which, I believe, is "*the solution of continuity of a bone.*"

Now the bones, like other organic parts, possess in themselves the power of repairing injuries; the only difference which takes place in the case of such an injury offered to a bone being, as I have already told you, that it is *slower* in its course. I have had occasion to show you, that when the soft parts are divided, they become reunited either by adhesion, which we have called union by the first intention, or by the process of granulation and cicatrisation, which is called union by the second intention. Now the union of bone is not at all like that of the soft parts, occurring by adhesion. We cannot assimilate the two occurrences. The union of a broken bone is more like that of the soft parts by granulation and cicatrisation, though not precisely similar even to that. We observe, that when the broken ends of bone are brought into contact and so maintained, they slowly grow

together; that is, the bone becomes united at the part at which it had been broken. It has been said, that this arises in consequence of the effusion of blood in the interval of the broken ends of the bone, and the subsequent organisation of the blood thus effused. This explanation does not suffice, because bone will unite even when no blood has been effused; and if blood be effused (and it probably is, in most cases), it is absorbed before the process of union commences.

In the progress of the union of broken bones, we find that a considerable swelling occurs in the situation of the fracture—a swelling that is rather firm to the feel, and this is technically called *callus*. The word callus signifies, originally, merely a hard lump. The term simply denotes the circumstance of the swelling that occurs about a fracture. After the fracture is united, there is generally more or less of irregularity, or swelling, remaining, and that also is designated by the term *callus*. Hence this has become quite a technical word, to denote that effusion of substance by which the fracture of a bone is consolidated. Thus, in technical language, we speak of the substance of bones being united by callus; and those who have investigated the process by which this is effected, have been said to have investigated the formation of callus.

Formerly it was supposed that the broken ends of bone became united by effusion into the interstices of a kind of viscid fluid, which gradually hardened, and became converted into the nature of bone. It was supposed that particular articles of food or medicine favoured the formation of this substance; and some earthy matters have been given, under the notion of promoting it; hence the term *osteocolla* was applied to a substance of that kind formerly in use.

When experiments, however, came to be made on living animals, it was soon found that this notion of the effusion of a fluid, which gradually hardened, between the broken parts of a bone, and thus caused the consolidation, could not be maintained. Duhamel supposed the consolidation of bone arose out of certain changes that took place in the periosteum. Others considered, that granulations were produced from the broken ends of the bone, and thus the union was accomplished. It seems to have been the opinion of Mr. Hunter, that union was effected by the effusion of blood into the intervals of the broken bone, and then by its subsequent organisation, according to the view he entertained of the process of adhesion of the soft parts. More accurate investigations, however, have shown, that the process is not effected in any of these ways. Recently, the attention of some of the French surgeons has been directed to this point; and I apprehend that the account which they have given of the mode of union of broken bones, is the most correct. Dupuytren has directed particular attention to the subject, and he has discovered, that when the two ends of a broken long bone are brought together, and maintained in accurate apposition, they become, in the first instance, united by a swelling, and subsequent ossification of the soft parts immediately surrounding the ends of the broken bone. This forms a kind of case for the fracture, by which the broken ends of the bone are held together for a time; then the broken ends so brought and held together, unite, and become consolidated. Thus he distinguishes between the first or *provisional* union produced by the swelling and subsequent ossification of the surrounding soft parts; and the ultimate or *definite* union by the agglutination of the two broken ends. The former he calls the *cal provisionnel*—the provisional callus; the latter the *cal defini*—the definite callus. According to his account, it appears that, in the first instance, taking the period from the occurrence of the fracture to the end of about the eighth day, the periosteum, the cellular substance, the muscles, and other soft parts immediately surrounding the broken bone, become swelled, and form a considerable tumour, which can be felt externally. All these parts enter into the composition of that swelling. The thickest part is opposed to the situation of the fracture, and it is gradually lost on the natural surface of the bone in both directions from the fracture. In the commencement, the tumour is somewhat red, that is, there is some determination of blood to it; but towards the latter part of the period I have mentioned, namely, towards the end of the tenth day, this red appearance is lost; and the swelling, when examined internally, has a whitish appearance. In the early part of the time there is, in fact, a mixture of coagulated and fluid blood; blood is effused from the vessels which are in the situation of the fracture, and it subsequently coagulates. Such is the state of the parts from the commencement of the fracture to the end of the tenth day; and at this time there is either a kind of viscid fluid found between the ends of the bone, or there is something like a reddish granular substance between them—a sort of spongy substance—nothing osseous. In the second period, from the the tenth to the twentieth or twenty-fifth day, the swelling becomes less in size; it is more limited to the neighbourhood of the broken ends of the bone, but it is considerably firmer in its structure. It begins to assume a fibrous, or cartilaginous, or something of an osseous structure; and during the same time the medullary cavity goes through the

same process, it likewise begins to assume an osseous or cartilaginous structure. During this period (the second period) the parts admit of motion; that is, the broken ends can be moved on each other, but no *crepitus*, no grating is perceived upon such motion. The *third* period extends from the twentieth or twenty-fifth to the fortieth, fiftieth, or sixtieth day, and in that third period the external swelling becomes ossified—assumes a pretty firm ossific state. The internal swelling of the medullary membrane becomes ossified in like manner; and, in fact, this ossification of the external and internal swellings becomes firm enough to allow the patient to employ the broken bone. In the case of fracture of the thigh or of the bones of the leg, the patient can now support the weight of his body on the limb that was broken; but yet the actual extremities of the fracture are not united. They still remain connected by the viscid fluid, or the red spongy substance I have just mentioned. Although the fracture at this time is sufficiently consolidated to enable the patient at all events carefully to use the limb, yet it is weak enough frequently to allow of the fracture giving way again, in consequence of some external force or violence, or in consequence of too much weight being rested upon the limb. The *fourth* period extends from the fortieth, fiftieth, or sixtieth day to the end of the fifth or sixth month, and in that time the external swelling becomes completely and firmly ossified; and when you then examine it externally, it seems as if the periosteum were continued over the swelling to the sound parts of the bone. It has assumed a strong ossific character, the medullary membrane is ossified also, and the ends of the bone, which have not been closely united, are found to be connected by bone, so that you only see the situation in which they have been previously separated, as a faint line, when the fracture is sawn through. In the *fifth* period, which extends from the fifth or sixth month to the twelfth month, the external provisional callus is entirely absorbed, and the union of the bone becomes so firm that subsequently the bone will, perhaps, break more easily in other places than at the seat of fracture. The provisional callus having served its purpose of keeping the broken ends together for a given period, is entirely removed; and that portion of callus produced by the medullary membrane is equally completely removed, so that the medullary membrane is restored to its natural state. This, then, is the course taken by nature in repairing the fractures of long bones when the two ends are kept in proper apposition. Now, here is a specimen of the humerus, where the broken ends of the bone have not been kept in precise apposition; but you will observe that still the regular structure is completely re-established.

Sometime ago I had a patient in the hospital, an elderly man, nearly sixty years of age, who had a compound fracture of the tibia, and he died very suddenly in the fourth month from the time of his being admitted into the hospital. The fracture had proceeded very favourably, and had united very well; he had been well enough to get up and walk about the ward. The limb was quite firm. We considered the bone to be quite united. He died suddenly, as I have said, and thus I had an opportunity not only of examining his body, but of examing the state of the tibia. When I laid bare the tibia, it appeared quite soft externally, it looked a little swollen, but when I sawed out a little of the fractured part, I was quite surprised to see that the remaining portions of the ends of the fractured bone moved freely. Though he had walked about in the ward, and lived till the fourth month after the accident, yet where I sawed the bone through in the situation of the fracture I found it corresponding to the description I have given you; namely, the fractured ends of the bone were literally not at all united, although four months had elapsed from the occurrence of the fracture. They were connected by a soft substance, I could easily move them, and the ends were likewise connected by a kind of external investment, a sort of *ferrule* (if we may use the expression) which held them together. The medullary substance was also united in this way.

Now, you are aware it sometimes happens that the ends of broken bones are not brought exactly into contact; they do not exactly meet as they ought, and yet the bone will be united under these circumstances. What Dupuytren calls the *definite callus* never takes place in such a case. The broken ends are perhaps only in contact by their sides; then the bones are united by what he calls the *provisional* callus, and that provisional callus permanently remains. A very firm union will take place in this way. Here is an instance of that kind. The ends of the broken bone ride upon and overlap each other, but there is a substance which holds them together. The medullary cavity, of course, cannot be restored in such a case. The resources of nature are very extensive. In many instances where the ends of a broken bone do not come near together, the bone will become consolidated, so that the patient can bear upon it. Here is a specimen of such a case where the ends do not at all correspond with each other, but still they have become fixed. I have seen instances where there has been a considerable interval between the broken ends; fractures of the

tibia, for example, where there has been no direct bearing from the upper upon the lower end of the bone, and yet the fracture has become consolidated. It has been known also that a portion of bone has been broken off; a part of the whole thickness of a long bone, extending into the medullary cavity, has been broken off and turned completely round, so that the exterior of the bone has been turned towards the medullary cavity, and still union has taken place. There is a specimen of that kind in the Hunterian museum. Now, this shows that there are very extensive powers in bone for repairing injuries; and, therefore, you must not hastily conclude that because extensive injury has been received it will be necessary to remove a limb, or that nature is not sufficient to repair injuries that really may be very considerable.

*Practical Rules of Treatment.* — From the general view of the process by which a fracture is united, you will immediately deduce the practical rules that are to be observed in the management of such cases. You must bring the broken ends of the bone together—approximate them—bring them as nearly as possible into their natural position, retain them in that position, and keep the limb quiet, that there may be no danger of their becoming separated. These are the general purposes that are to be fulfilled in the treatment of fractures; but the circumstances attending fractures are so various, that it is not sufficient for me to mention these general observations, it is necessary to enter somewhat more into detail respecting the peculiarities attendant on these accidents.

Fractures differ, in the first place, in consequence of the description of bone affected. There may be fracture of a long bone, of a broad bone, or of a short bone.

Now the observations we have to make respecting the surgical treatment of fractures, apply almost entirely to those of long bones. The short bones, such as the carpal or tarsal, are hardly ever the subjects of fracture; sometimes, indeed, the *os calcis* is broken, but that is a very rare accident. The broad bones are more frequently broken, yet these fractures admit of very little help surgically; and they generally are more important, in consequence of the mode in which they affect the parts contained in the cavities (cavities formed by the broad bones), than in consequence of the fracture of the bone itself. This is more particularly the case with respect to fractures of the cranium; we cannot do much with respect to those, so far as the bone itself is concerned. Fractures of the pelvis—the same; so that our observations respecting fractures relate almost exclusively to fractures of the long bones.

Then there are considerable differences in respect to the nature to the injury, and the extent of the parts involved. The fracture may affect the middle, compact, or solid part of the bone, or its spongy articular extremities. The direction of the fracture is very various. The bone may be broken across—transversely; it may be broken in a slanting direction—obliquely, or it may be broken lengthways — longitudinally; but the latter kind of fracture is uncommon—longitudinal fracture; it perhaps hardly ever takes place, except in gun-shot injuries, where the fracture of a bone is accompanied with fissures or cracks for considerable distances. Under such circumstances, nearly the whole length of bone may be cracked longitudinally. There is, however, a kind of partial longitudinal fracture, which is more common; and that is where fracture takes place of the inferior articular portion either of the femur or of the os brachii—the condyles—that part which constitutes the condyles of both these bones is occasionally broken in a direction which approaches to the longitudinal, the fracture in such cases frequently extending also into the joint, which, of course, is rather a serious complication of mischiefs: and, with the simple division of the bone, you may have, under certain kinds of violence, the complication of a fissure, or crack, extending to a considerable distance.

A bone may be broken in one place, or in two places, or a certain portion may be broken into several fragments; hence arise the distinctions of *single* fracture, *double* fracture, *comminuted* fracture. The injury to the bone may occur alone, or it may be accompanied with more or less injury to the surrounding parts. A fracture may be accompanied with more or less extensive laceration or contusion of the muscles, and other soft parts. There are few fractures in which there is not this kind of injury, and, in a great number of cases, it forms an important part of the mischief. Fracture is not uncommonly attended with ecchymosis; that is, laceration of blood-vessels, and effusion of blood; this blood may be diffused generally into the cellular texture, or a considerable quantity of it poured out into one spot. Or, lastly (which is a more important injury), a large artery may be wounded; the latter circumstance more particularly occurs in fractures of the leg, where there are large vessels lying close to the bones. Fracture is not unfrequently accompanied by a division of the integuments, and a protrusion of the broken bone, a wound of the integuments communicating with the fracture; this is called a *compound* fracture. We use the terms simple and compound as opposed to each other; a simple fracture being one in which there is no external

wound communicating with the broken bone, whether it be broken in one or more places; and a compound fracture being a fracture in which there is a wound in the integuments communicating with the broken bone. These terms are not employed exactly in the same kind of way by the French writers; there they use the term for a simple fracture to denote, simply, a case in which the bone is broken in one place—*fracture simple*—a simple fracture. What we call a compound fracture is, with them, *fracture compliqué*—a complicated fracture, though that does not correspond with what we should mean by such an expression; because a complicated fracture admits of various kinds of other injuries with the fracture of the bone. The occurrence of fracture may be complicated with injury of a joint; that is, the fracture may be so situated as to extend into a joint; and there are some rare instances in which fractures have been accompanied by dislocation, though these are uncommon injuries, because the violence which produces them, either causes one or other of these accidents alone. If it thrusts the head of a bone out of its socket, it does not produce fracture; and, *vice versâ*, if it breaks the bone, it does not force it out of its socket. Therefore, in general, the existence of fracture excludes the idea of luxation; and the occurrence of luxation makes one think there is no fracture. But there are some instances in which fracture and luxation are joined; and, two or three years ago, I saw a medical person with dislocation of the humerus, and fracture of the bone close to its head, so that the dislocation could not be reduced.

*Causes.*—Now, with respect to the causes of fracture, we find that bone may be broken by any violence directly and severely applied; such as a severe blow, the wheel of a carriage going over a limb, or any other violence of that sort will fracture a limb. But more commonly bones are broken by force indirectly applied to the part at which the fracture takes place. A person falls, and the end of a bone comes to the ground; well, the weight of the body rests upon the opposite extremity of that bone, and the bone being included between these two forces, gives way at its middle, or at its weakest part—gives way at a point where there is no direct force applied to it. That is the way in which bones are broken in cases of falls.

There are certain causes of fractures which may be considered as *predisposing* or *remote*, circumstances which favour the occurrence of fracture, when the bones are placed in such a situation as to become the subject of the kinds of violence I have mentioned. In the middle period of life, when the bones have attained their greatest strength, *cæteris paribus*, they are least disposed to fracture. Fractures take place less frequently in young persons than in others. In elderly persons, the bones become considerably more brittle than in the active and robust period of life, so that in the event of falls, or any material violence, fractures very readily take place. Sometimes there are states of the constitution which we cannot very well define, in which we find bones broken, without our being able to account for the occurrence. Now there is a person in Bedlam, at present, who has been there for a great number of years, and who had his arm broken from some slight cause or other. One could hardly tell how that fracture of the humerus took place. The limb was put up in splints, and the fracture united, and did very well. In about two years afterwards, it was found out by accident, that his thigh-bone was broken, and those about him were not aware of any violence or blow that could have occasioned it. In fact, he continued to walk into his cell upon it, and after he had got into bed, he complained of something about the thigh. When I came to examine it, I found there was a fracture of the femur. The fracture was treated in the regular way, and the ends of the bone united very well.

There are certain morbid states of constitution, in which fractures take place, usually under the application of very slight degrees of force, such as, in a healthy individual, would be totally inadequate to produce such an effect. It is in this way that the bones of cancerous patients have frequently been fractured, merely from moving in bed, or from some similar slight exertion. In these cases, however, we can conceive how that takes place, because we find the bones, under such circumstances, considerably softened, and a great part of the earthy matter removed, and, perhaps, a cancerous substance deposited in its place.

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## CLINICAL LECTURE

BY

### *Dr. ELLIOTSON.*

***Delivered at St. Thomas's Hospital, March 1st.***

### HYSTERIA.

I SHALL consider, Gentlemen, those cases which I have in the hospital at present of a disease very similar to that of which I spoke in the last clinical lecture,—of hysteria. This affection, like epilepsy, I need not inform you, is characterised by more or less of

convulsions and insensibility. The convulsions differ from those of epilepsy in beginning again from time to time after they have appeared to cease; and the insensibility from that of epilepsy in being incomplete, or, at least, if the patient declare she has been completely insensible, still you will have observed some voluntary action during the paroxysm, either an appearance of looking about her, or some sort of speaking, or, if the insensibility is really complete at one moment of the fit, yet during the course of it there is evident sensibility from time to time. There are also, nearly always, laughing, crying, sobbing, choking, gulping, previously, during, or subsequently to it. It is by the observation of all these circumstances together, that we distinguish the two diseases, and accordingly I consider the case of Susan Kye in Mary's Ward, to be one of hysteria. She was in the house a year ago under Dr. Roots, but had no fit all the time, although she said she had been subject to fits four years, and was seventeen years of age. The account she then gave was that she generally had a fit once a month, and on one occasion experienced four in a fortnight; that they lasted usually half an hour; that she foamed at the mouth, bit her tongue, struggled, was completely insensible, and after the fit was heavy and sleepy, and before the fit had no warning. This looked undoubtedly like epilepsy. She remained two months in the house, but no fit occurred. She was admitted under my care on the 18th of last February, and, as the fits were now more frequent, I soon had an opportunity of ascertaining their nature. She was observed to laugh, and cry, and sob, and be troubled with wind both during the fit and afterwards; and, though she declared herself to be insensible in the fits, yet in one of them she called out for James, and on my inquiring what more she was heard to say, and what she wanted with James, what she wanted James to do, I found that she called out for James to come and kiss her. On my inquiring of her afterwards who James was, she wished me to believe James was one of her old uncles, but as I never knew young ladies particularly anxious to be kissed by their uncles, I take it for granted that James was a younger man, who had found favour in her sight.

She complained of constant headach, especially at the upper part of the forehead, darting through the occiput, which was, in truth, largely developed; of throbbing and great heaviness of the head. The bowels were very torpid, and the catamenia, though regular, very scanty. She was short, stout, and plethoric.

From the convulsions, with impairment of general sensibility, in hysteria, there can be no doubt, I think, that it is an affection of the brain like epilepsy, although the exciting cause may reside either in the head or in another part. But, besides this, there are frequently, as in her case, decided proofs of an inflammatory or plethoric state of the head.

A very slight exciting cause is sufficient to produce this disease in females: anger, mortification of any feeling, ungratified desire, costiveness, and irregularities of menstruation, are very common causes. In this instance there were costiveness and deficiency of catamenia; but I cannot say whether the costiveness occasioned the oppression of the head, or the oppression of the head the costiveness; neither do I think it proved that the deficiency of menstruation was the cause of the hysteria, any more than the hysteria the cause of the torpidity of the uterus. It is certainly true that hysteria is far more common in females than in males; but, then, their minds are altogether far more irritable than ours. The disease prevails in them infinitely more during the functional existence of the uterus; that is, from puberty to the close of menstruation. Yet we must remember, that it is exactly during these thirty years, that *all* the feelings are in the greatest activity, as well as the feelings of attachment and desire. There can be no doubt that the stoppage or diminution of menstruation does often produce hysteria; but I know that when hysteria has been produced by other causes, as fright, disappointment, anxiety, or any mental excitement, the menstruation has been checked merely in consequence. The notion that hysteria can arise only from the state of the womb, is totally unfounded; you will recollect what I said of its occurrence in males, in the last lecture; and I dare say you have all read, in the Life of Napoleon, that, on an occasion of his pride being wounded when a boy, he had a regular hysteric paroxysm. Among the feelings of the mind, I imagine that ungratified amativeness is the most common exciting cause, because the disease is far more frequent in young maidens and maiden ladies, than in any others; and because the occiput is so frequently painful and hot in the disease, and the disease generally disappears after matrimony. I do not regard this, however, as an illustration of the uterine, but of the cerebral, origin of the disease, because all the desires of the mind must reside in the brain; and I may add, as a disciple of Gall from the conviction of many years' close observation, the sexual desire in the cerebellum.

From the frequency of the disease, where there is pain of the occiput, and deficiency of menstruation in single women, I discovered the disease in a woman who was admitted on Wednesday last in Mary's Ward,

twenty years of age. Her catamenia were deficient, and her occiput very painful. She made no mention of hysteria, but I questioned her upon it, and it very soon turned out that she had had hysterical fits, and this discovery I have frequently made in the same manner.

As hysteria is so readily excited in females, and so frequently from momentary or temporary moral causes, it is a less durable, a far more superficial, complaint, if I may so speak, than epilepsy.

There are frequently united with it various other symptoms, such as characterise the most severe permanent or fatal diseases, and yet even these are as temporary, or as easily cured, as the regular hysteria itself. I have seen an hysterical woman suddenly become lock-jawed, and this trismus instantly removed by the administration of an enema of oleum terebinthinæ. Two years ago I admitted a patient into Anne's Ward, about seventeen years of age, with complete hemiplegia of the left half of the body, of some months' standing, which, after several hysterical paroxysms, had come on suddenly at church or chapel, where, no doubt, her feelings were excited by the warmth of the place, the sermon, and the congregation, or somebody in the congregation; but by appropriate treatment, the girl very soon left the hospital perfectly cured. It suddenly returned many months afterwards, but was as easily removed. There is sometimes extreme tenderness of the surface of the chest or abdomen, or both; and I have seen it in the latter situation, mistaken for chronic peritonitis, as the tenderness was such, that not the slightest pressure could be borne on any spot, and yet the absence of such derangement of the health as must have attended chronic peritonitis, the want of pyrexia, wasting, &c., and the actual presence of some hysterical symptoms, pointed out the nature of the disease, and this disappeared, nearly or entirely, under the exhibition of iron. A very common circumstance in hysterical females, is a fixed pain in some one spot, commonly called clavus hystericus, differing from that last mentioned, solely, I presume, in not being diffused, and most probably of a neuralgic nature. A local spasm is not a very unusual thing; for example, a spasmodic stricture of the œsophagus.*

Sometimes the irregular hysterical symptoms appear really inflammatory, so that you shall have a gastritis, or palpitation attended with pain and tenderness of the region of the heart, or an apparently inflammatory irritation of the womb, &c. These affections are comparatively evanescent, that is, yield to antiphlogistic measures with far greater facility than ordinary inflammations, or, at least, lose their inflammatory character easily, or are not attended with the same degree of danger as an ordinary inflammatory case. And this leads me to remark with respect to regular hysteria, that it is very frequently of an inflammatory nature; that though, as in epilepsy, it would be right in the first place to remove any discoverable exciting cause, yet, in the next place, it is always necessary to inquire into the condition of the head, &c. In the greater number of cases, this will be found inflammatory, so that you will observe throbbing, heat, pain, heaviness, drowsiness, and other symptoms, clearly indicating a phlogistic state of this part. In such cases, camphor and assafœtida, and the usual and very proper remedies, will do little good, unless aided by the removal of blood, and this alone is frequently sufficient to remove the disease; it enables these and the other remedies which were mentioned as good in epilepsy, viz., metallic tonics, &c. to effect what, unaided by it, they would be unable to accomplish. The loss of blood is also frequently of use in another way than by relieving the fulness of the head. I mean by removing an exciting cause of the disease, the congested or inflammatory state of the womb. Purgatives are exceedingly proper, both for the purpose of aiding bloodletting in its operation upon the head, or by aiding it in relieving the womb; or, in mild cases, by taking its place altogether; or by obviating costiveness, which is a frequent morbid occurrence, and always aggravates the complaint, and sometimes may be the exciting cause. Among the best internal medicines, I believe, is the oil of turpentine, given in full doses; for example, half an ounce. I think it seldom right to begin, at least, with a larger dose than this with a

* Since this lecture was delivered, a woman has been admitted under Dr. Elliotson's care, on account of an inability to swallow anything but liquids, even a crumb of bread. He directed a bougie to be passed, when, after a little difficulty, it entered the stomach, and then was moved up and down freely with the utmost facility. On this account, and observing that there were, a sense of choking in the throat, flatulent, and general agitation, and other symptoms of hysteria (the woman being exceedingly weak), she was ordered iron, porter, and, for the purpose of overcoming the morbid irritability of the œsophagus, the bougie was passed night and morning, and always without the slightest difficulty. She was soon able to swallow moistened bread, could soon swallow meat, lost her hysterical symptoms, and regained her flesh and good looks, and was discharged cured.

female, although I know that some will bear two or three ounces. Generally speaking, an ounce is a very full dose for a female. It not only clears the bowels out thoroughly, and therefore does the same good as all other purgatives, but has, I am satisfied, a peculiar operation in hysteria and kindred affections. A very excellent illustration of the benefit of this medicine, after and in conjunction with venesection, was lately in Dorcas's ward. This was a middle-aged married woman, who did not appear to have suffered from disappointed affection or delight. She, however, had several fits daily, and could not work or attend to her family. The pulse was full, the head hot, throbbing, and drowsy. She had been ill some time, and under medical treatment, without benefit. By two or three venesections, the application of leeches to the head, and a few doses of oil of turpentine, she was soon well enough to return home. In the case which I spoke of in the beginning of the lecture, I commenced by taking twenty ounces of blood from the loins; the pain, however, beginning now to be felt decidedly in the occiput, blood was taken from it. The oil of turpentine was given every other day, the bleeding and cupping being still continued. She is so much improved, that it appears at present that no fit is observed except at the time she is taking the oil; so that this medicine seems now to be too exciting, and ought to be omitted; and after its omission, she will most probably have no return of them. My mode of giving the oil of turpentine was, to follow it, in two or three hours, by an ordinary dose of castor oil, if she had not previously been purged, and to repeat this every two hours until the desired effect was produced. When there is any difficulty of exhibiting it by the mouth, it may be administered in the form of enema, in the quantity of one, two, or three ounces in a pint of gruel. I have seen several cases of hysterical lock jaw, which had continued some time, and in which the mouth almost instantly opened that the injection was thrown up. You will find cases of this description in the Medico-Chirurgical Transactions. When blood-letting has been had recourse to, provided it have been indicated, the cold shower-bath is of great utility in lessening the morbid irritability, and may be employed frequently in conjunction with the oil of turpentine or common purgatives, and even sometimes while the local or general venesection is persevered with. After a time too, and occasionally when blood-letting has not been indicated, even at the very commencement, tonics are serviceable, and the most effectual, I believe, are the preparations of iron. Nitrate of silver, sulphate of zinc, and preparations of copper, are said sometimes to be of use; but I believe the same observations in respect to them in hysteria hold good as I made in regard to them when speaking of epilepsy, viz., that they will not prove beneficial, if loss of blood is indicated and not employed. In the fit itself, the free affusion of cold water is extraordinarily successful; it generally brings the patient to herself immediately. Yet, in a case of considerable plethora, with great fulness of pulse, I would unhesitatingly take blood from the arm, and if this be not sufficient, then the cold affusion will be equally proper as in other cases. If one good sprinkling brings the patient to herself for a moment only, I would, from a sprinkling, come to a sousing, and if one sousing does not answer, souse her again, as I once read in an old book, written when corporal punishment was absurdly and cruelly employed with maniacs, and which directed the doctor, if, after having beaten the patient, he did not grow quiet, to beat him again,—"A single swallow does not make a summer."

As there is generally so much flatulency and spasmodic abdominal pain in this disease, carminative, aromatic, and fœtid substances are frequently of advantage, but merely for the purpose of mitigating these symptoms. Prussic acid, camphor, galbanum, assafœtida, and similar medicines, are of established utility. The ancients, very properly, used warm fœtid substances. Their theory, I believe, was, that, as the disease consisted in a rising of the mother, these fœtid matters by the mouth would disgust her, and induce her to go down; and, consistently with this hypothesis, they also endeavoured to give her a twofold motive for descending, by at the same time applying roses and sweet-scented posies below.

As the state of the mind, or of the womb, is so common an exciting cause of this disease, or, if it is not the exciting cause, at least aggravates it, this should be remedied as much as possible. Amusements, exercise in the open air, pleasant occupation of the mind (for the want of occupation is a frequent source of this disease), and, above all, matrimony. In the case which suggested this lecture, you will recollect that the patient called out in her fits for James, and some wags thought that this was a spontaneous call of nature, indicating what remedy was required, and that I ought to have prescribed *James's powder*.

With respect to the uterus, the last remedy is frequently all-sufficient; but the general course of treatment which I have mentioned for hysteria itself, will often set it right, viz., bleeding and purging, in one kind of cases, especially by means of acrid cathartics, or the oil of turpentine in minute and repeated doses; and in other cases tonics and local sti-

mulants, such as a vapour or hot hip-bath, vaginal injections of ammonia, &c. In the treatment of amenorrhœa, however, the distinction so necessary to be made in so many other diseases is also necessary. Should there be fulness, aloetic purgatives, turpentine, &c., will be useless; the inflammatory state or congestion of it must be first removed, and then these will come into play beneficially, or, perhaps, not be required. On the other hand, if there is debility, it is in vain to think of stimulating it until the strength, and likewise a due quantity of good blood, is restored; and again, when this is done, the uterus will frequently resume its functions without the aid of these stimuli.

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MEMORANDA ON THE

## EPIDEMIC CHOLERA OF INDIA.

*By* S. Dickson, *Esq., Assistant Surgeon to the 30th Foot.*

*To the Editor of* The Lancet.

Sir,—The disease which forms the subject of the accompanying paper, having swept away a number of men of H. M. 30th Foot, while under my charge, I have been led to pay a more than ordinary degree of attention to its symptoms. Several of my medical friends, to whom I have submitted my views of the disorder, think I have accounted satisfactorily for its phenomena, and have assured me of their willingness, as opportunity offers, to put my proposed method of treatment to the test of experience. May I request the favour of your inserting my paper in your widely circulated pages.

I remain your obedient servant,

S. Dickson, Assist. Surg.
H. M. 30th Foot.

Bangalore, July 13th, 1829.

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MEMORANDA ON CHOLERA.

I cannot conceive why the learned Mason Good should have placed cholera under his order of cœliaca, and that, too, even when acknowledging that the whole nervous energy constituting *life* is frequently in an instant annihilated by this disease, as a Leyden jar is deprived of its electricity by touching it with a brass rod. The supposition, that the alimentary canal is the original seat of disease, seems to have arisen from the circumstance, that vomiting and purging show themselves at an early period of the disorder; but both these symptoms may be induced by fear, which none would on that account call a cœliac affection. The complete rationality of the patient is brought forward as an argument, that cholera is not a disease of the brain; but we know that the secretive and motific nerves frequently continue their functions when the sensific nerves have lost their influence, and *vice versa*. The ideot, for the most part, has but little sense of pain, and can bear intense heat and cold with impunity. His senses are blunted, but having still the motific power in all his muscles, and, what is more to our present purpose, in those of respiration, life, in him, not unfrequently proceeds to longevity. The cholera patient, on the contrary, is sensible of pain to the last; he complains of the weight of a blanket, and in a bath at 100°, he feels the heat insupportable, but his muscular powers are prostrate, his stomach and bowels become pulsied, and the respiratory organs are unable to continue their functions. Cholera, then, is a disease of neuralgia, and the immediate cause of neuralgic disorders is, a diminution of nervous power, as is obvious from the little control which the cerebro-spinal organs possess even over voluntary muscles. This decrease of energy may be the effect of a thousand causes. The action of the marsh poison is the common cause of agues; but a stricture of the urethra is sometimes attended with ague fits; and the introduction of an armed bougie into the same passage, is occasionally followed by a similar paroxysm. Epilepsy is as often the effect of irritation of the alimentary canal, as of direct cerebral disease. It may be produced, also, by various poisons. We see a fall, the prick of a thorn, and the poison of nux vomica, followed by tetanus. You may simulate this disease by puncturing the spinal chord with a small stilet.

Like every other neuralgic affection, cholera, I apprehend, may have its origin in many causes; although when epidemic, as in India, we shall find it more frequently arising from a vitiated atmosphere. I know not the shadow of a difference betwixt the train of symptoms induced by the action of arsenic when injected into a vein, and those observed in this disease. The bite of certain snakes, concussion of the stomach from a blow, and, occasionally, surgical operations, are followed by a similar disorder. It is a frequent result of gun-shot wounds even of the extremities. The hydrocyanic and oxalic* acids will produce it in its most fatal form; so will a stroke of lightning or electricity. In short, whatever directly or indirectly, by immediate contact or by sympathy, weakens the nervous energy, will, according to its violence and rapidity, produce particular affections, more or less ap-

* See paper by Drs. Christison and Coindet, in the Edinburgh Medical and Surgical Journal for April, 1823.

proaching to this terrific disease.† When death is an immediate consequence, we shall not be able, perhaps, to detect a single morbid appearance on dissection; but where the fatality shall have been slow, we have congestion, and if still more slowly induced, we have inflammation and even gangrene supervening.

It has been the subject of remark, that no two cases of cholera are precisely alike in all their symptoms. The reason is far from obscure. The brain and spinal chord hold a control over an extensive system of nerves, and it only depends upon the situation and degree of their derangement, whether any or all of these nerves be implicated when those organs are diseased. In cholera, the muscles of the toes and fingers first act irregularly, then those of the legs and arms. Were the brain and spine to lose their influence only over those distant parts, life would not be in danger; but when the nerves of respiration and secretion also escape from their control, then, and then only, the disease approaches to fatality.

It seems difficult, at first view, to account for the secretions in one patient ceasing entirely, while in another they continue to be carried on with preternatural activity. Some cholera patients, for example, vomit up bile to the very last; the greater number, however, have this secretion stopped. To explain this, it is only necessary to observe, that the various functions of gland, muscle, and viscus, immediately terminate when the nerves that supply them are cut off from their connexions with the brain or spine; that, on the other hand, when this connexion is only partially interrupted, which may be artificially produced by puncturing a nerve, the functions of either become morbidly active. Tetanus, I have said, may be produced by puncturing the spinal marrow. The function of a muscle is to contract, and in this disease the muscles are in morbid contraction. Divide the spinal chord entirely, and there will be complete palsy. The passion of grief affords another example: the tears flow profusely in sorrow, but when the feelings of the sufferer are completely absorbed in this depressing passion, the lachrymal secretion ceases, the eye is dry, like a dead person's; it is the glazed eye of cholera unmoistened by a tear. It were well that this were the only secretion that ceased in cholera. But in the most fatal cases of this disease, the liver secretes no bile—the kidneys no urine; there is no moisture on the skin, or if there be, it is the cold clammy sweat that exudes from the atonic vessels of the moribund. It is not what Dr. Johnston terms it—a sweat squeezed out by spasms, for in this stage of the disease, a spasmodic action has ceased to exist.

Having once granted that spasm is a symptom of cerebral or spinal weakness (and seeing that it is the frequent forerunner of death in typhus, and precedes palsy in almost, indeed, every instance, shall we doubt it?), all the symptoms of cholera may be easily accounted for.

The pneumo-gastric nerve, as its name denotes, supplies the stomach and lungs with the cerebral energy—a partial interruption of its connexion with the brain causes spasmodic vomiting and precordial anxiety; when this connexion is completely dissolved (which it is in every fatal case of cholera), there is paralysis of both organs. In this instance, there is no longer violent vomiting—whatever is now taken by the mouth is retained. The stomach is palsied and passive, equally unconscious of the presence of stimulant and diluent fluids. The breathing for a time is carried on by the diaphragm and intercostal muscles, but these soon become involved in the universal prostration, they are unable to continue their functions, and the lungs, consequently, *collapse*. The sufferer now coughs occasionally, complains of a cutting of his breath, and the almost inaudible tone in which he answers your questions, shows that the recurrent branch of the eighth pair is also paralysed; he speaks like a person who has cut this nerve in an attempt at suicide. The more the lungs collapse, with greater difficulty the blood finds its way to the left side of the heart. The little that does pass is black and viscid—it is more carbonised than healthy venous blood. The greater portion of this fluid is now collected in the right auricle and ventricle; it is in vain that the anxious patient draws, in the shape of a long sigh, his deepest inspiration to relieve his loaded heart. The blood cannot pass through the lungs; it must seek new channels. The valves of the external veins prevent its regurgitating into them; but the veins of the brain, and abdominal viscera, having no valves, these are the channels into which the superfluity of blood is naturally sent. These veins, then, must be in a state of congestion; and the superficial veins receiving but a small supply from the ill-fed arteries, contract in their calibre upon this diminished quantity, as they urge it on. Is not this, then, the cause of the

† If fear amount to *terror*, we shall have, according to the degree of constitutional irritability present, ague, hysteria, epilepsy, tetanus, cholera. In the course of our voyage from England to India, after experiencing a severe hurricane off the Cape, thirteen of a pack of thirty dogs which was on board, died of a disease extremely resembling cholera: here it was indubitably the effect of terror.

extremities becoming shrunk and bloodless; that they are cold and livid, is owing to their not being supplied with red blood. In the puer cæruleus (the greater part of whose blood passes through the open *foramen ovale* directly to the left side of the heart, without being acted upon by the atmosphere), the extremities are cold and blue, but they are not shrunk as in cholera, for they are sufficiently supplied with blood, though that blood, from its carbonised state, is unequal to the production of heat. We have accounted, then, for almost every symptom but the watery purging. Having shown how the internal veins are all completely congested, we have only to remark, in addition, that wherever there is a great *vis a tergo*, the bowels, during life, seek to relieve themselves by means of their numerous excretories in those watery discharges, which consist of the more pellucid portion of the blood.

Let us examine the condition of a person whose lungs collapse from an artificial cause, the effusion of blood from a wound in the thorax for example:—"You will find him," says Mr. John Bell, "with bloody foam at his mouth, his face, pale in the cheeks, and livid round the lips and eyes, heaving the breast with intolerable anguish, tossing from side to side in bed, the bloody foam increasing, the breathing becoming more difficult, and the blood and air rattling in the throat; then the pulse flutters, and the extremities constantly grow colder, till, struggling in something like a convulsion, he expires." Strip this description of a few accidental symptoms, and you have before you a case of Indian cholera. In such a case, there is always that dreadful thirst which forms not the least of the cholera patient's sufferings. This thirst is common to every disease in which there is a difficulty of respiring. It is one of the symptoms of phthisis, and is present in the passion of grief, where also the sighing and anxiety show the inability to breathe freely; wherever the brain has lost its perfect control over the respiratory nerves, we have this burning thirst. It adds to the sufferings of the wounded in a field of battle, and of all who have lost much blood. Almost all the symptoms of cholera may be induced by loss of blood. Take them in the words of Dr. Blundell:—"A certain ghastliness of the countenance, a restless disposition to change posture, a long-continued cessation of the pulse at the wrist, a gasping respiration like that produced by running, jactitation of the arms and legs, joined with a feeling of most oppressive anguish." To these add "irritability of the stomach and bowels," "cold sweats" and "cold extremities," and, lastly, "asphyxia."

If we turn to the post-mortem appearances discovered on examination of those who have died of cholera, we shall find them precisely the same as are observed on opening an animal that has been drowned, strangled, or poisoned by noxious vapours; viz. a collapsed and engorged state of the lungs; a loaded condition of the brain, the right side of the heart, and, in a word, of all the internal veins; the arterial blood is black; the colon and urinary bladder are empty and contracted in all. Blood drawn before death, is found to be uncoagulable in each and every of these diseases.

Professor Coleman, on repeated experiments, observed that all the air of the lungs was *nearly exhausted* in animals killed as above described; but when he passed a ligature round the trachea, so as to keep the lungs distended, he found that the blood could pass to the left side of the heart with ease. The proportion of blood in the left side was, in such cases, to that of the right, as nine to seven; nay, when he distended the lungs by water, he obtained a similar result. When the animal was destroyed without this precaution, it was the reverse. The right side of the heart, the veins of the brain and of the abdomen, were completely loaded. The lungs were then in a state of collapse or complete expiration. "Expiration (says Haller) will, therefore, stop the easy passage of the blood through the lungs, and when the whole thorax is compressed together, repels the venous blood into the veins of the head, and *fills the brain and its sinuses*. In this manner, a fresh necessity follows for repeating the respiration, because the collapsed vessels of the lungs resist the blood repeatedly expelled from the right ventricle of the heart, and this makes another cause of death in those animals which expire in vessels exhausted of air. Such lungs having the air entirely drawn out of them, appear dense, solid, and are heavier than water, whence they are rendered impervious to the blood. Of the same kind is the death of those who are killed by lightning, and, perhaps, by the noxious vapours of caverns."

The treatment of diseases so nearly resembling each other, ought, to a certain extent, to be similar; and, first, as to stimulants. Having already clearly, I hope, proved the disorder to be one of cerebro-spinal weakness, stimulants, I need hardly say, are the remedies chiefly to be depended upon. Ammonia, brandy, camphor, &c., ought to be administered in large doses, the moment the symptoms of the disease appear. Opium, at the commencement, is extremely beneficial; but I fear I have seen it hasten death in the latter stages. With regard to calomel, I hesitate not to say, that I believe it to be totally useless, if not hurtful; nor can I place reliance on any mercurial remedy, when I know that the disorder has

*attacked, and proved fatal to, men in a state of ptyalism.* Blisters only torture, and, consequently, weaken the already debilitated patient.

Some of my eastern brethren will ask me, why I have omitted bleeding. If Mr. Coleman's remarks upon the analogous diseases already alluded to, be not sufficiently cogent against bleeding in cholera, I have others in store, which may be still more convincing. "Were it possible (says Mr. Coleman) to take blood from the part where we know it superabounds, bleeding would prove one of the most efficacious means of recovery. The right side of the heart has been found to be loaded with blood; this universally obtains in the disease; and I mentioned one or two instances in particular, where we had an opportunity of observing that the heart ceased to act from over distention; but when relieved from a part of its burden, its contractions were immediately renewed. If, therefore, from the right side of the heart, while thus in a state of violent plethora, *a small quantity* of blood could be taken, experiment and observation tell us, that its power and action would be instantaneously invigorated; *but as this lies beyond the reach of art*, the taking of blood from any other part of the body can rarely be productive of any considerable benefit."

If a ligature be placed upon an inferior extremity, you may bleed your patient in the arm to syncope, but you will not thereby remove the plethora existing below the ligature; on the contrary, the limb will run sooner into a state of gangrene. It is exactly the same in cholera, where venesection must do additional harm, *by robbing the patient of the little arterial blood so necessary to the existence of the brain's, already too diminished, energy.*

If you ask three practitioners why they bleed in cholera, one will tell you, to relieve cerebral congestion; a second, to unload the engorged lungs and abdominal viscera; while a third will inform you, it is to subdue spasm. These practitioners, nevertheless, give, at the very moment they detract blood, a diffusable stimulus. They see that the disease is one of debility, but they cannot divest their minds of the theories about congestion, &c., and so they bleed, blister, and give brandy, in one and the same breath. Is this not blowing hot and cold? It is the same as if they were to order a hot poultice to a bubo with a cold wash above it. Let us answer each in order. The same reply will, perhaps, satisfy the two first. If an animal be allowed to bleed "slow from life away," this very congestion of the brain, lungs, and abdominal viscera, will be found among the post-mortem appearances. Would these gentlemen, then, bleed in a case of uterine hæmorrhage, where, in addition to every symptom of cholera, this very congestion is present? This congestion causes no cerebral oppression, at least when the disease first shows itself, and that is the period when bleeding has its most numerous advocates. Every body, at all conversant with the disease, will acknowledge, that the patient sinks more rapidly when raised from the horizontal position. Does this argue an oppressed state of the brain? Does it not show, rather, how necessary the blood is to the cerebral arteries? Is the rational state of the patient a sign of apoplexy? When cholera ends in coma—when the pupil is contracted or dilated, and the patient has stertorous breathing, then, most certainly, there is apoplexy. But will bleeding remove this?—Will it give sufficient energy to the respiratory muscles to distend the collapsed lungs? Assuredly not. To those who argue for venesection, on the plea that it subdues spasm, I answer, that while it robs the affected muscles of the little cerebral energy the spasms show they possess, *it weakens the powers of the respiratory muscles also, and consequently hastens asphyxia.* The blood is in this case the life, for without blood a muscle cannot contract, nor a gland secrete; many die of cholera who, from the first, have never suffered from spasm. In the last stage of the disease there is no spasmodic action; the internal parts are palsied, and the external strength is laid prostrate. If it be boasted that bleeding has been sometimes followed by success, I believe the reason to be, that the irritating cause in such cases has not been so great; the atmospheric poison has not been so deeply inhaled; and the records of our science bear witness to a successful result in other dangerous diseases, where the practice has been confessedly erroneous. But if it be proved (which it has been by Magendie), that the action of poison is favoured by bleeding and retarded by an artificial plethora, why should we bleed in a disease which arises, indubitably, from an empoisoned atmosphere? Misled by the relations of authors, and the encomiums they have given to bleeding in this disease, I gave it a trial to an extent which I never can sufficiently regret. I should have been more successful had I transfused blood into my patient's veins, instead of depriving them of this fluid, so necessary to their very existence.

Of all the various modes of treatment resorted to in nervous diseases, is not counter-irritation the most generally efficacious? Zinc, arsenic, and copper, are called tonics; may they not rather be termed irritants, seeing that when they produce cures in ague, epilepsy, gout, palsy, &c., they do so only by establishing an analogous disease? they act, in a word, by counter-irritation.

How instantaneously does cold water, dashed in the face, recall the fleeting energy of the brain in syncope! Dr. Currie was, I believe, the first who introduced the cold bath in tetanus; he attributes its good effects solely to counter-irritation. On this principle the French physicians treat the disease with nux vomica, which, as we have already said, produces a similar disorder. The poison of arsenic, and of certain snakes, produces a train of symptoms analogous to cholera. The natives of India treat the bite of the cobra de capello successfully with arsenic. Ought not this to be an inducement to give it a fair trial in cholera? In the case of a Sepoy who came under my care, I administered to the extent of ʒij of Fowler's solution at a dose; the patient recovered. In several European cases, I tried the fumes of arsenic, by making them inhale the remedy from a common tobacco-pipe, and in the majority of instances with success. I attribute the deaths that occurred to my having, unfortunately, bled the patients at the same time. In one instance, where re-action had taken place after the exhibition of the remedy, I believe a fatal termination to have been produced by the exhaustion of a long confession, and the additional fear of extreme unction.

I apprehend, that the usual practice of covering up the patient with a blanket in cholera is decidedly hurtful, inasmuch as the skin is thus kept from absorbing oxygen from the atmosphere, which, in this disease, it has the power of doing to a greater extent than at any other time; for the external veins being nearly empty, absorption goes on rapidly, as we see in the sudden disappearance of the fat of the eyes and lips. Frictions of the legs and arms are powerful auxiliaries in every case of diminished vitality, and consequently prove highly beneficial in cholera. I have seen too many patients expire from the debility induced by the warm-bath, to recommend it in cholera. In the commencement of the disease the cold-bath, I have no doubt, might be serviceable, from the good I have seen done by cold ablution in the more advanced stages; the patients, one and all, declared it to be extremely grateful. Dr. Stephenson, of H. M. 15th Dragoons, has the merit of first putting the cold-bath to the test of experience, and he reports very highly in its favour.

It is the common custom to deny the patient cold drinks in the disease; on what account I am at a loss to conceive. On a late occasion I indulged a female with a deep draught of the coldest water, and she said it restored her strength. To the same patient I gave half a bottle of beer when she called for it, and obtained a similar declaration. The woman recovered. This woman, shortly after being attacked, took drachm doses of the arsenical solution, every twenty minutes, to the extent of four drachms. Dr. Perston, H.M. 20th, found her, in the evening of the same day, in a collapsed state, and administered to her brandy, with large doses of tinct. lytta, a remedy which, among his female patients, he has found very successful.

If in some instances of poisoning from opium, life has been restored by blowing into the lungs with bellows, after apparent death had taken place by the cessation of respiration, this practice ought not to be neglected under similar circumstances in cholera. Might it not be useful, moreover, to expand the patient's lungs in this manner when we observe the respiration to become difficult?

Having already glanced at several of the nervous diseases which owe their origin to particular passions and poisons, it may not be out of place to remark that all these irritating causes, when long localised, are capable of producing other forms of disease very analogous to each other. Thus the various poisons of lead, arsenic, and mercury, when slowly accumulated in the system, exhibit their effects in disorders, similar to those which, under the name of scurvy, abound in a marshy country; and these, again, are daily mistaken for syphilitic diseases. If the patient have at any period had venereal disorder, not a doubt is entertained. If he have not, his physician is sceptical as to the truth of his assertion; and if he cure him with mercury, he prides himself upon such scepticism, forgetting that many scorbutic diseases yield to this mineral. Sore eyes, spongy gums, cutaneous eruptions, diseased bones and liver, dysentery, colic, epilepsy, tetanus, tremblings of the muscles, and palsy, are the common diseases of a malaria district. To these might be added, intractable ulcers, elephantiasis, idiotcy, diabetes, consumption, and malignant tumours, such as cancer and fungus. Does not the fact, that all these diseases are benefited by arsenic, go far to bring them under one family. Do not many of them too frequently embitter the lot of those whose constitutions have been broken up by corroding grief, and by long courses of mercury for fancied syphilitic disorders. We find them in miners long exposed to the fumes of arsenic or copper, and in those who work in lead, such as plumbers, glaziers, and painters. When these diseases arise from poisons, analogous poisons are the medicines, perhaps, most to be depended upon; iodine, arsenic, mercury, and silver, are highly successful in the diseases of malaria; while many mercurial disorders yield to mercury itself.

*Note.*—In some cases of cholera, patients suffer from trismus. The only difference

which seems to me to subsist betwixt cholera and tetanus is this, viz. that while in cholera the nerves of both the brain and spine become almost at once inadequate to the performance of their respective functions, in tetanus for some days the nerves arising from the spinal chord only, are affected; hence the eighth pair deriving its origin from the brain, continues its functions undisturbed for days; and the blood circulates freely. Where this disease terminates in death the eighth pair becomes also involved. The patient, therefore, dies the same death as those who die of cholera, viz. of asphyxia.

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## LITHOTRITY.

### CASE OF STONE IN THE BLADDER TREATED WITH THE BRISE-COQUE,

*By* BARON HEURTELOUP.

(Communicated by D. O. EDWARDS, Esq. Westminster Hospital.)

*Mr. R——, aged 60; good constitution; slight catarrh of the bladder; a smooth and flat uric-acid calculus, from about ten to twelve lines in diameter—Difficulty of recognising the existence of this stone—Employment of the perce-pierre; its insufficiency—Employment of the* brise-coque *— New "sonde exploratrice"— Cure.*

Mr. R——, a merchant of Limerick, about sixty years of age, of a sanguineous temperament and good constitution, having always enjoyed excellent health, and having never experienced the least pain in the region of the kidneys nor voided gravelly particles, was about a year since, conscious, for the first time, of a sensation of heat at the extremity of the penis, and which soon degenerated into a sense of pinching when the bladder was quiet, and of vivid and lancinating pain during the expulsion of the urine. A stumble, the act of sitting down, or the entering a carriage, increased the intensity of these painful sensations; but Mr. R—— immediately experienced relief on placing himself on his side. Notwithstanding various symptoms indicative of stone, the urine flowed in a full stream, and was not suddenly arrested in its course; the desire of urining was not of frequent occurrence, and was less frequent at night than in the day-time. During the former period the patient did not feel the want more than three or four times, and during the latter, in spite of the abstinence from exercise which he underwent, he was obliged to make water every half hour. A mucose deposit was constantly present, and remained in suspension in the urine.

Mr. R—— at first consulted two very respectable practitioners of Limerick. Of these Mr. Carroll assured him that the symptoms left no doubt as to the existence of stone in the bladder, but that catheterism did not justify this conclusion. Having called Mr. Thwaites into consultation, he proceeded to a careful examination, but neither of these gentlemen could satisfy himself of the presence of the foreign body.

According to the advice of these gentlemen the patient came to London and consulted that eminent surgeon Mr. Green, who could discover no stone. He was sent by Mr. Green to Mr. Brodie, by whom he was sounded, and a sensation experienced sufficiently plain to convince him of the existence of a calculous body. Afterwards Messrs. Brodie and Green consulted together, and carefully explored the bladder, but did not succeed in detecting a stone. Mr. R—— then went to Mr. Lawrence, who was also unsuccessful in his researches.

Mr. Green now brought the patient to me. I practised catheterism according to my system, and immediately ascertained the presence of a foreign body. I determined in two days' time to resume my exploration, with a view of learning the nature and state of the calculus, in order to proceed to its destruction.

Mr. Green and Mr. Brodie being present, and the patient conveniently placed on the rectangle-bed, I first performed catheterism with the recto-curvilineal sound, and I became conscious of the presence of a body which I judged was sufficiently small to be destroyed with a perce-pierre.* The bladder was injected with a suitable quantity of water, and the sound withdrawn. I introduced the instrument, the stone was immediately seized, and submitted to the action of the lithotritor, but before its action was completed the calculus escaped from the claws; being retaken several times, it as often escaped, and the instrument could make no impression upon it in consequence.

A second application of the perce-pierre, was nearly as fruitless as the first, the stone as soon as taken slipped away from the grasp of the instrument. Some nubulous particles brought away in the teeth of the drill, and a few small fragments ejaculated

* M. Heurteloup has given the appellation of "*perce-pierre*, or *stone-piercer*," to the instrument of Drs. Leroy and Civiale, because the action of that instrument consists only in boring a hole in the stone, each time it is fairly presented to the drill. Dr. Civiale admitted to me in conversation that his instrument was not applicable to a stone of larger diameter than 20 lines.—D. O. E.

in the stream of urine, alone attested that the stone had been apprehended and attacked.

Convinced of the insufficiency of the *perce-pierre* in the present case, in which I had to destroy a hard, polished, and *flat* stone, I had recourse to the * *brise-coque*, or *shell-breaker*, with which as soon as introduced into the bladder, the stone was seized and in a moment crushed. The instrument being withdrawn, the spoon-shaped branches were found charged with a considerable quantity of fine detritus.

After three days' rest, during which the patient passed a considerable quantity of powder and larger particles, I had again recourse to the shell-breaker, with which I discovered some fragments that had escaped during the preceding sitting; these were seized with facility and crushed; and a large quantity of absolutely levigated detritus once more attested the power of this instrument, as well as the nicety of its apprehension.

For four days after this event Mr. R—— experienced a continual discharge of calculous particles, and all the symptoms gradually disappeared. A methodical catheterism with the recto-curvilineal sound, and the little three-branched pincers, demonstrated the absence of every fragment from the organ, and consequently the completion of the cure.

CLINICAL REMARKS.

This history, although having for its subject a patient who presented favourable auspices, having a good constitution, having suffered from the disease but a short time, and having only a small stone, is, in some respects, important, and pleads in favour of lithotrity.

What first strikes the attention, is the difficulty that was experienced in ascertaining the presence of the calculus. Examined by surgeons of undoubtedly great abilities, one alone succeeded in determining the fact by catheterism, and this only once, for a second trial did not afford the same success, and the patient after repeated soundings had no clear idea of his situation. Certes, such a circumstance is of a nature to prove the want which exists in the science, of means better adapted to the end proposed, than the sounds ordinarily used in catheterism for the detection of calculi. This assertion cannot be better proved than in the present case, where the attempts at sounding were conducted by the most able hands. If the stone was not discovered, that could only arise from the vicious form of the instruments employed; and a conviction of this truth was the motive that principally induced me to introduce into practice the recto-curvilineal sound; and another *particular sound* which has been highly serviceable to me in the discovery of small stones and fragments. This sound is of gum-elastic, flexible, of a natural curvature, having an eye within two or three lines of its vesical extremity, and another eye three inches distant from the same extremity. This last is adapted to permit the bladder to empty itself completely even when the instrument is plunged far into the organ. There results from this contrivance a possibility of detecting the stone by the following manœuvres:—An injection being introduced through the sound whilst the patient is upright, I push it into the bladder until the eye, situated three inches from the extremity of the instrument, enters the cavity; I desire the patient to give a few shocks to his body by raising himself on the point of his toes, and then dropping suddenly on his heels. Whilst the organ empties itself I withdraw the sound about an inch, and I gradually return it until the bladder is entirely evacuated; then very gradually drawing out the sound I feel the stone, if it exist, interpose itself between the cervix and the sound. A sense of grating is the more distinctly felt, in consequence of the part of the sound extending between the two eyes being undulated in this manner.* The foramen, three inches distant from the extremity, is there placed in order that the bladder may be entirely emptied, and a portion of the sound sufficiently long to allow its withdrawal to indicate the presence of the stone, may remain in the viscus. If there were but one eye at the extremity, this manœuvre could not be effected, for the bladder would not be evacuated until the instrument was almost out. It was with a catheter of this description that I immediately discovered the calculus in Mr. R——.

If the presence of a stone or of a fragment is ascertained by means of this catheter, it is necessary before taking it out, to fill the bladder with water, and to push the instrument further in, in order to disengage the stone interposed between it and the neck. Without this precaution a risk of wounding the bladder is incurred.

In a case where it is difficult to ascertain the existence of a stone, it were hazardous to perform cystotomy, lest, as has sometimes occurred, no stone should be found after the operation. The patient has, in some instances, been allowed to linger on in his sufferings, until the calculus has acquired such a bulk, as to remove all ambiguity. Mistakes of this nature should enhance our

* For a description of this instrument, see LANCET of 1st August and 26th September, 1829.

* A delineation of this will be given in a future Number.

esteem for lithotrity, which never presents such frightful contingencies. If there be no stone in the bladder, the lithotritist has merely made an exploration in employing his instrument, whereas the lithotomist will have brought his patient uselessly into imminent danger.

The stone with which Mr. R—— was afflicted, was small, flat, and smooth. This was shown in two ways; first, by the symptoms, and secondly, by the operation.

Whenever a patient having a calculus, and especially a small one, experiences no interruption in the jet of urine, at least such an interruption as for a few moments entirely arrests the flow, and occurs several times during an emission, it is to be presumed that the stone is flattened. When we reflect that this arrest of the stream of urine takes place in consequence of the foreign body presenting itself at the cervix, and of its form being exactly adapted to plug up the passage, we may conclude that the stoppage is more complete the nearer the stone approaches the spherical form. This enables it to roll towards the neck during the act of micturition, and to stop up the internal meatus. Mr. R—— did not suffer any symptom of this kind, it was, therefore, presumable, since flat stones do not roll in the bladder, nor so hermetically seal the urinary passage as to prevent the flux, that his stone was of this description.

The operation clearly proves the stone to have been of this form, for none but an ovoid flat body could escape from the grasp of the perce-pierre, and produce an unequal deflexion outwards in the branches.

The stone being recognised to have a flat form, I was driven to have recourse to my brise-coque,* the superior power of which over the perce-pierre I had frequently proved.

I think, however, that the stone in Mr. R——'s case might at length have been destroyed by the perce-pierre, because it was small. It is reasonable to suppose that after being seized and rendered uneven by the action of the drill, it might ultimately have been firmly held by the pincers and more energetically attacked. The patient, however, would have been very much harassed by the frequent renewal of the attempts, and the cure would have been purchased at the expense of all the fatigue and danger which attend an unnecessarily prolonged operation.

The brise-coque alone was adequate to effect a prompt and certain cure, and this is confirmed by the result.

This operation was performed in the presence of Mr. Green and Mr. Brodie. No vesical irritation or general pyrexia interrupted its progress.

* The *brise-coque*, or *shell-breaker*, is an instrument invented by Dr. Heurteloup and combines in its branches the retentive power of the claws and the destructive property of the drill of the ordinary perce-pierre. It consists of two exceedingly strong branches which are projected from a steel tube, expand themselves and seize the stone by an extremely simple process. The flat stone or fragment being grasped between the branches, is immediately crushed by an action as prompt as it is energetic.—D.O.E. Vide LANCET, 26th Sept. 1829.

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## THE LANCET.

*London, Saturday, May* 15, 1830.

AT last, we believe, there is some chance of awakening the public to a proper sense of its duty with regard to certain pretended charitable medical institutions. The manner in which many of these fraudulent establishments are got up, is at once a libel upon the knowledge and good taste of the British public. Any dirty, scheming "impostor," or itinerant quack, has only to advertise that a hospital is "much wanted" for the "afflicted poor" in a certain district, or that an "Asylum for Health" would be very desirable in a certain Grove, and away post lords and ladies, with their benevolent donations, for announcement in the newspapers. The motives of the promoters of such schemes are not for a moment inquired into, and a thought, even, does not appear to be bestowed upon the way in which the subscribed funds are to be applied. The "charitable founders" may be persons of the most abandoned description, and their only object to obtain that station in the profession by stratagem, which they know it is not in their power to reach by the honest exercise of their abilities. Thus it not unfrequently happens, that the very means that are proffered by the unthinking philanthropist for relieving the miseries of the afflicted, are converted into instruments for increasing their sufferings, and, in but too many instances, for effecting their destruction. Even our royal and richly-endowed hospitals, as

they are at present conducted, instead of being public charities to which the afflicted poor may resort with feelings of satisfaction and security, are viewed by them as public nuisances or scourges, and which they never enter without feelings of horror and dread. This is the consequence of the scenes of cruelty and blood, so constantly presented by the inexperienced and misguided hands of the neveys and noodles, who, in defiance of superior claims, and even of the common dictates of humanity, are, ever and anon, under the flimsy shield of sham elections, forced into the offices of surgeon. But if the poor are occasionally slaughtered under the eyes, as it were, of some of our most respectable noblemen and citizens in the richly-endowed hospitals, what must not be the fate of the miserable wretches who are consigned to the greedy and reckless clutches of the unprincipled adventurers, by whom more than one half of our more modern hospitals, infirmaries, and dispensaries, have been projected, and in which there is not enough even of decency to adopt a sham election in the choice of medical officers? It is not unusual for beardless boys, who have never performed an operation upon the living body, nor even dissected a single extremity of a dead one, to occupy most important medical offices in these establishments. Can the consequences of such a system be contemplated without shuddering? At what a dreadful sacrifice of human life must skill be purchased by such individuals! The press, it is true, may, and it probably does, in some measure, restrict the number of their malpractices; but the salutary influence of this powerful engine is as nothing, when compared with the multitudinous opportunities for effecting mischief. Through the connivance of confederates, who constitute the "committees" and "weekly boards," a large proportion of the professional murders perpetrated in our public institutions, are now committed in private. The *theatre* of a hospital is no longer a convenient arena for these tragic exhibitions. The press has admission there. Hence, in order to avoid the too scrutinising eye of the reporter, private rooms in the hospital are selected, or, as was recently deemed still more eligible by one of the surgeons of the Borough hospitals, a private lodging; but neither darkness nor secrecy could afford skill to the ignorant, and this shameless device, dictated by the meanness and cowardice of cunning and incompetency, was followed by another cruel failure. When will there be an end to this inhuman system? In the absence of an efficient and honourable College of Surgeons, in the absence of an efficient controlling medical body, in the absence of a representative Council in the College of Surgeons, we place our reliance for a remedy, upon the good sense of the mass of the profession and of the public. If the Council of the College in Lincoln's-Inn Fields at all exerted itself for the benefit of the profession, if it were at all otherwise engaged than in measures of aggrandisement and pilfering, the appeals which we have so repeatedly made upon this subject, would not have been urged in vain. The character of this body, in our opinion, is worse, if possible, than it was seven years ago; the conduct of its members, in their corporate capacity, is so detestable, it is in truth, so much detested, and the tints of corporate flagrancy are so widely diffused, that, if we mistake not, the shadows of guilt will soon be perceived attached to, or, at least, there will be a suspicion of their connexion with, private individual character. The members of a close corporation are too apt to consider their *charter* as an impenetrable screen to their deeds of infamy. It might, perhaps, furnish some protection, if adherence were compulsatory; but when it is recollected, that a man is at liberty to resign his seat, a constant struggle within and without the precincts of the corporate mansion to effect a salutary and rational reform in its government, will, if he remain

alone, save him from suffering in character, in common with the mass of his associates. In truth, the interests of the twenty-one individuals who form the Council are directly at variance with those of the large body of English medical practitioners. From this cause there is no feeling in common between them, and each party is viewed with distrust and suspicion by the other. In this state of things, and until a new college shall be formed upon a broad, liberal, and sound basis, it is the duty of medical practitioners to take every opportunity of instructing the public, relative to the frauds in Colleges, Hospitals, Infirmaries, and Dispensaries, and, indeed, of every description of professional abuse and degradation. The remedy is in their own hands. They have only to bestir themselves, and triumph is certain. Embrace, we say, every opportunity to instruct the public upon these points, and a better can scarcely be afforded than will present itself at an adjourned meeting to be held at the "Yorkshire Stingo," on *Wednesday* next, when the affairs of the "Western Hospital" are to undergo another discussion. The first meeting, held on Saturday last, was, we understand, one of extraordinary tumult and confusion, and partook more of the character of the proceedings usually witnessed at a dog-fight, than of the mild and benevolent aspect of the workings of charity. But we regret not the spectacle. It is right that there should be turbulence where there has been evil doing. Crimination, and recrimination, soon lead to agitation and exposure. A smooth and quiet state of things is far the most deceptive. As the occasion is highly favourable, and as the "daily press" is now lending a helping hand in the regeneration of medical charities, it is the duty of independent surgeons, and their friends who may be well informed on the subject, to attend and assist in the important process of analysation now going on; should this be done, the "report" must prove highly beneficial.

Lord Calthorpe has announced his intention to introduce the Anatomy Bill into the House of Lords; and from its appearing first in the Upper House, we are led to hope that the "money-clauses" are abandoned. We are anxious to see a copy of this document, and hope the profession will watch the proceedings with the utmost attention. The members of the College of Surgeons must hold themselves in readiness to act.

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It will be seen by a communication from Mr. Scott, that the three or four stewards who had not resigned on the day before the medical dinner was to have been held, have now resolved to abandon the undertaking, and accordingly have thrown up their offices in high dudgeon. The alleged reason for this is, a want of *unanimity* on the part of the profession. A very strange reason certainly, considering that the profession had *unanimously* resolved not to partake of so characterless, so spiritless, so useless a repast, as it was the base design of certain parties to make it. The profession, on this occasion, has acted with excellent decision and judgment. We are sure that Mr. Scott, and his small minority, will excuse us for saying, that the reproaches, indirectly pointed at their professional brethren, remind us of the denunciations of ladies of a certain age and questionable attractions, who declare that "men are ugly disagreeable creatures," and that they will have nothing to do with them.

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### POSTPONEMENT OF THE PUBLIC MEDICAL DINNER.

(*For The Lancet.*)

The present state of this affair may appear to many to demand from the persons who have been engaged in supporting it, some sort of explanation of their motives and views. In their motives for putting off the dinner, the Stewards, *who had not retired from the undertaking*, were influenced by a conviction that the important and honourable co-operation of Mr. Hume, Mr. O'Connell, and their friends, in this manifestation

of professional feeling, deserved the support of the *entire body of general practitioners throughout England*; and ought to be drawn out only by an assembly which, through its *numbers and respectability*, would at once justify its pretensions to the support it had obtained, and gratify its honourable visitors, by demonstrating how large a body appreciated the services of its friends, and did honour to their patronage. However, on the eve of the day fixed for the festival, the stewards were not sufficiently assured of their object, to justify them in resigning its consequences upon the responsibility of their own body, at a time when it had become reduced to less than half its original number, and at a moment when the medical world found itself disturbed by considerations which distracted the judgment of some, and divided the opinions of the rest. In these circumstances it appeared more prudent to submit the question to longer deliberation, than to precipitate an important measure at a moment peculiarly unfitted for its reception.

The present *views* of the late stewards may be stated in few words. Harassed by the indefensible secession of the greater part of their body, and disappointed at the want of unanimity in their professional brethren, *they decline any further efforts*, leaving the burden to be taken up by those who may be more fortunate, but who cannot be more zealous.

JAMES SCOTT.

London, May 5th, 1830.

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CHARITY AND DECENCY.

SCENE—*Out-patients' Receiving Room in an Hospital not a hundred miles from Smithfield.*

*Present*—SURGEONS, PUPILS, PATIENTS.

A POOR CRIPPLED WOMAN (*addressing the Surgeon*). I shall be very grateful, Sir, if you will be kind enough to examine my thigh.

SURGEON. It's of no use, my good woman; I see what it is (*addressing the students*). It's an old case of diseased hip-joint, gentlemen.

POOR WOMAN. I shall be very thankful, Sir, if you will please to look at it. I have suffered greatly for a very long time.

SURGEON. It's of no use, I say; I can do nothing for you.

POOR WOMAN (*with her hand half concealed, twirling a sovereign between her finger and thumb*). I wish, Sir, you would please to look at it, if it was only for a moment; it would be a very great satisfaction to me.

SURGEON. Well—well; sit down, my good woman, and remove your clothes. Ah! I think we can be of service to you.

POOR WOMAN. Thank you, Sir, kindly.

SURGEON. Wait a moment; I'll write for you (*handing the prescription*). Here, my good woman.

POOR WOMAN (*taking the prescription, and at the same time exhibiting a sovereign in the half-closed palm of her left hand*). Thank you, Sir. (*The gilded bait at once catches the keen eye of the humane surgeon, who coolly place it in his fee-bag.*)

SURGEON (*to the students*). Respectable woman that.—*Exit.*

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THE following very sensible petition is to be presented to the House of Commons, against the impolitic and illiberal tax which it is proposed by the Chancellor of the Exchequer to levy upon all surgical diplomas:—

"*The Humble Petition of the Royal College of Surgeons of Edinburgh*;

Showeth,

That your petitioners have observed, with the greatest regret and alarm, that it is proposed to Parliament to exact, by a stamp-duty, a tax of 10*l.* upon the 'admission or license of any person to be a member or licentiate of any College of Surgeons.'

Your petitioners beg leave respectfully, but most earnestly, to represent, that the acquisition of a proper medical and surgical education necessary for all those who undertake the duties of general practice, requires a long period of time, and is attended with a very heavy expense, for which it is long before any adequate return can be obtained, and that the class of young men educated for surgery possess very limited means.

It has long been well known, that the education of those who apply for licenses and diplomas has been, in many respects, defective; and the different colleges and public bodies who have the power of granting these testimonials, have, for some time past, and particularly of late, endeavoured to remedy this defect, by extending the course of study required from those to whom diplomas or licenses are given. The greatest obstacle which your petitioners, and it is believed the other public bodies, have encountered, in effecting this desirable

object, has arisen from their knowledge of the difficulties imposed upon young men, by the increase of expense necessarily attending it; and they have carefully avoided adding any thing to this expense, except what may be absolutely required to obtain the improved education. In proof of this they may mention, that no addition has been made for nearly a century, to the fee required in obtaining a diploma (which amounts to 6*l.* 5*s.*); so that were the proposed stamp-duty imposed, the expense of obtaining this certificate, already it is believed as large as those applying for it can afford, would be nearly trebled.

In these circumstances, this tax could not fail to be most oppressive to those applying for surgical diplomas.

Your petitioners have also to represent, that a diploma in surgery, although at present generally taken by those educated at the different medical and surgical schools, is a mere certificate of qualification, not conferring any privilege, and is not required by law to be possessed by those who practise surgery or medicine in the greater part of the United Kingdom. In these circumstances, there seems great reason to fear, that the increased expense will absolutely prevent a large proportion of medical and surgical students from taking a diploma, and they will thus be deprived of the motive to go through the full course of education which they at present follow. In this way the interests of the community will be materially injured by the diminution of the number of properly-qualified practitioners, and by the increase of the already-too-great number of the ill-educated and irregular; and the efforts which have been made, and are now making, to improve the education of surgeons, will be materially counteracted and impeded.

In the opinion of your petitioners, the proposed duty will operate as a tax for the prevention of the improvement and proper qualification of practitioners.

Your petitioners conceive, that even were the number of diplomas annually granted maintained at its present rate, the amount of the tax would be of little importance to the revenue; and they are satisfied, that the diminution which it is likely to occasion, would render it even less productive than is anticipated.

Your petitioners also strongly feel, that the proposed tax, by lessening the number of diplomas, would materially diminish their funds, which they have hitherto applied in promoting medical and surgical science, by the purchase and formation of extensive and valuable collections of anatomical and pathological preparations, and would involve them in great difficulties in the completion of the undertaking they have entered upon, of building suitable accommodation for rendering these preparations useful to the medical and surgical school of Edinburgh—a work which they will not be able to complete, even by the expenditure of their whole present funds, and which they commenced in the belief of the continuance of their present annual income.

Your petitioners therefore earnestly hope, that your honourable House will take the above statement into your serious consideration, and that you may be induced to abstain from sanctioning a measure, which will not, in their opinion, produce any good effect, and which they cannot but regard, for the reasons they have stated, as very oppressive to those engaged in the study of medicine and surgery—as detrimental to the improvement of medical and surgical education, and therefore injurious to the community—and as prejudicial to the interests of your petitioners.

May it therefore please your honourable House to take the above statement into consideration; and to grant your petitioners such relief in the premises as to your honourable House shall seem meet."

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*A short Treatise on Operative Surgery, designed as a Manual for the use of Students in operating on the Dead Body.* By Charles Averill, Surgeon to the Cheltenham Casualty Hospital, &c. 3rd. edition. London: Jackson. 1830. 8vo. pp. 294.

As we had not noticed either of the two former editions of this book, we have been induced to examine the present one with much attention, and regret to state that the work, though not altogether undeserving of the success it has experienced is by no means, for a *third edition*, so complete or so perfect as it ought to have been. Besides "the operations which are requisite for the cure of strangulated hernia, for hydrocele, for diseases of the eye, for contractions of the œsophagus, rectum, and urethra, for nasal polypus, and many others," which the author states in his introduction that he has "omitted as they cannot in general be practised on the dead body," he has also passed over the operations for forming a new nose and lip, of opening the antrum, of recision of the uvula, tonsils, and extirpation of the uterus, all of which may be performed upon the dead subject; while,

on the other hand, he has given descriptions of some operations which can only be performed on the diseased living subject, as the removal of loose cartilages from the knee-joint, &c.; and of others which are never likely to be again performed, as the excision of the knee-joint, and of amputation at the elbow, for instance. Notwithstanding the title also, and the statement in the introduction, a large proportion of the operations are described in reference to the living body alone, and a number of points noticed and cases given, which, however valuable in themselves, cannot be of the smallest use to the student in the dissecting room. The directions are, for the most part, clear and simple, in a few instances, however, as for tying the radial artery near its origin, for lithotomy in the female, according to Lisfranc's method, &c., they would scarcely be intelligible to the uninstructed student: and, occasionally, terms are employed which are not in use in this country, as carotis facialis for facial artery, large crural, for posterior tibial nerve, &c. Notwithstanding these defects by the author, we believe all the operations described, are the most eligible, or at least the most usually practised, with the exception of that for tying the innominata, and we are convinced that in the living subject it would be next to impossible to pass a ligature round the artery at the bottom of such a deep and narrow hole as would be made by the operation which the writer relates, not to mention the great risk of wounding the vein, the difficulty of avoiding which, must be, under any circumstances, the most embarrassing part of the operation.

It may appear beneath the province of criticism to notice typographical errors, yet we cannot omit to mention as extraordinary negligence, in a third edition, the fact of there being nearly twenty, besides those which are corrected in the table of errata.

We have been thus particular in pointing out the errors and defects of this work, because it has been unusually and indiscriminately praised by the venal portion of the medical press, and we trust that the author will so far receive our reproof in good part, that if a fourth edition should be called for, he will take care to render his little book as correct and instructive as possible.

*An Introduction to Systematical and Physiological Botany, illustrated with Explanatory Engravings.* By Thomas Castle, F.L.S., M.R.C.S. London. Cox. 1829. 12mo. pp. 285.

*An Introduction to Medical Botany, &c.* By Thomas Castle, &c. London. Cox. 1828. 12mo. pp. 172.

Of all the wretched compilations, which, has been our unpleasant task to review, the two now before us are, perhaps, the very worst—the most completely useless. It was no unnecessary precaution, therefore, on the part of the author, to secure a long list of subscribers to the first of them, since no one, we imagine, would think of purchasing a work, which, in addition to its numerous faults, both of commission and omission, is scarcely more compendious, or less expensive, than the very far superior volumes of Smith on the same subject. As to the latter, it is little more than a copy of a part of the former, and can, therefore, require no particular notice. Indeed, it must be evident, *a priori*, that such a work, however well written, is necessarily superfluous, since medical botany must be studied in the same manner, and on the same principles, as general botany, and an introduction to the one is equally an introduction to the other.

We shall, therefore, only speak of the "Introduction to Systematical Botany."

The first part of this, or the history of the science, is remarkable only for its absurdity, and the ignorance which it displays. We need only give one specimen of each quality. The author divides the early history of botany into four stages.

"That the first stage," says he, "corresponded to the time of Adam, is very evident; the second stage to the days of Cain, who is represented as a 'tiller of the ground;' the third stage, to the period (A. C. 2349.) in which we find Noah represented as 'a husbandman, having planted a vineyard and drank of the wine;' and the last stage, to the time in which we find the Ishmaelites remarked, as 'trafficking in spicery, and balm, and myrrh, which they carried down from Gilead to Egypt in the days of Joseph."

The absurdity of this statement is too evident to require observation; and the same may be said of the ignorance which places

Haller and Jussieu "among the eminent men who have devoted themselves to the subject of plants *since* the time of Linnæus," or which maintains that "the only system which has appeared, since the introduction of the Linnæan system, requiring our notice, is one in which that learned botanist Jussieu, has immortalized his name, by an attempt to arrange all plants in a natural order."

As the description of the component parts of plants, the nomenclature of botany, and the account of the Linnæan system, forming the bulk of the work, are taken, almost entirely, from Smith and Wildenow, they may be passed over in silence; but we are almost surprised that even so blind and servile a compiler as Mr. Castle, should have contented himself by giving a long account of the natural system of Jussieu, without the smallest notice of the far more perfect and complete arrangement of Decandolle, whose name, and, indeed, the names of the most eminent botanists of the present day, are not even once mentioned.

It would be fatiguing our readers to no purpose were we to enter more minutely into the work, or to point out its less important errors and omissions. We will only, therefore, observe, in conclusion, that the author appears to have no real knowledge of botany, though he may have learnt a certain number of words and phrases by rote, as is sufficiently manifested by the imperfections of those few parts of the book which are not directly copied from other authors; of course the book is suited only for those who may wish to obtain the same imperfect kind of information on the subject.

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## BIOGRAPHY OF SOEMMERING.

Samuel Thomas von Soemmering, was born at Thorn, in East Prussia, on the 25th of January, 1755. He took his degree at the University of Goettingen on the 7th of April, 1778; his inaugural dissertation, "De Basi Encephali et Originibus Nervorum, Cranio egredientium," clearly evinces that admirable talent of observation, and indefatigable power of research, which are the most eminent features of Soemmering's genius. In 1779 he published a work on the lymphatic system, and in 1784, at the time when the political liberty of the negroes was so ferrently discussed by Condorcet and Raynal, a treatise on the anatomical difference between the Negro and European. In the following year he published his researches on the pineal gland; in 1786, that on the decussation of the optic nerves; and in 1788, his work on the brain and spinal chord. During this period, when he seemed to be exclusively engaged in anatomical researches on the brain and nervous system, he wrote a pathological treatise, "De Perturbatione Critica et Crisi," and a popular work on the injurious effects of stays. The museum at Cassel, which contained a very rich collection of monstrosities, was at that time transferred to Marburg, in the neighbourhood of Soemmering's residence, who, in the midst of his practical labours, made this collection the object of his studies; the fruit of which is his magnificent work on acephalous and bicephalous monsters. In 1791, he published a work on the treatment of stone, and in 1795, in conjunction with Wenzel, a treatise on the effect of gout on the osseous system. The results of all his anatomical researches are preserved in his large work on the structure of the human body, the numerous editions and translations of which are a sufficient proof of its great value; some parts of it, especially those relating to the structure of the brain, to osteology, and the formation of the teeth, will, perhaps, for ever stand unrivalled for accuracy and clearness. By his constant researches into the structure of the brain, Soemmering thought to have obtained some clue with regard to the organ of the mind, the seat of which he conceived to be the fluid exhaled in the cerebral ventricles. This idea he put forth in a separate treatise, published at Koenigsberg, in 1796. Another opinion, somewhat connected with the former, and no less hypothetical, he had formed, on a peculiar liquid circulating in the nerves; his treatise on it was published at a later period, in 1811. In his magnificent "Tabulæ Baseos Encephali," he gave a description of the principal differences between the brain of man and of animals. Towards the end of the last century, the Academy of Goettingen had published a paper on the means of preventing the occurrence of ruptures; Soemmering took up the subject, and within a short time published a considerable number of scientific and popular works on it. In this treatise on umbilical hernia, he, for the first time, brought forward the opinion, now generally established, that in the umbilical hernia of adults, the rupture is never formed by, but near, the cicatrix of the navel.

The knowledge we possess at present of the intimate structure of the lungs, is almost entirely owing to the researches of Soemmering and Reisesen, who, for the first

time, clearly showed that every pulmonary cell was distinct from and without any communication with, the others, and that the bronchial ramifications ultimately terminate in them.

Another part of Soemmering's studies was directed to the structure and formation of the fœtus; and his "Icones Embryonum Humanorum," may be fairly said to have given the first impulse to the study of embryology, especially in Germany, where this part of anatomy has been cultivated with such an extraordinary zeal and success, an assertion which is more than sufficiently proved by the works of Tiedemann, Meckel, Burdach, Baer, Doellinger, Carus, Oken, and Rathke.

The other medical works of Soemmering (for it must be remarked, that besides his almost incessant anatomical researches, and his avocations as a skilful practitioner, he was a very eminent astronomer, and published several works on this science, one of which, "Ueber Sonnenflecken," has a very great reputation) are the following:—

De Morbis Vasorum Absorbentium Humani.

Icones Organi Auditûs Humani.

A popular Treatise on the Preservation of Sight, and on the Causes of several Diseases of the Eyes.

Icones Oculi Humani.

Icones Organorum Humanorum Gustûs et Vocis.

Tabulæ Sceleti Feminini.

On the Diseases of the Bladder in Old People.

On Dislocation and Fracture of the Vertebræ.

De Concrementis Biliariis Corporis Humani.

In 1828, when Soemmering had attained the fiftieth year, after taking his degree of Doctor Medicinæ et Chirurgiæ, (a sort of Jubilæum, which is always celebrated in Germany,) nearly all the universities, academies, and other scientific bodies of that country, tried to testify their veneration of his talents, and their acknowledgement of his merits, by memorials, dedications, etc., a general testimony of joy and veneration, in which Goethe himself eagerly joined. Some of the works addressed to Soemmering at that time, especially those of Meckel for the University of Halle; of Doellinger and Martius, in the name of the academy at Munich; of Baer and Burdach for Koenigsberg; and of Tiedemann for Heidelberg, are, moreover, of the greatest scientific value; and we hope one day to have an opportunity of giving an extract of them to our readers. The account we have now given of this celebrated man, has been condensed, in some part, from the *Journal Hebdomadaire*.

## ON THE SEPARATION OF UNITED FINGERS.

In a recent number of the *Journal fur Chirurgie u. Augenheilkunde*, Dr. Kriemer, of Aix la Chapelle, gives an account of the method he has employed in several cases of the above malformation, the treatment of which being so very seldom attended with success, we think it worth while to give a short extract, both of the cases successfully and unsuccessfully treated.

In one case there was a morbid union between the index, middle, fourth, and little fingers, in both hands. The fingers were simply divided by the knife, the wounds made to bleed freely, and pieces of linen, dipped in sweet oil, placed between them; leeches and fomentations of Goulard's water were also applied to the hands. Two days after the operation, no inflammatory symptom having occurred, small pieces of lead of a semilunar form, and with the edges rounded off, were placed between the fingers, and kept in this position by means of a sort of bracelet round the wrist; but although this apparatus was used with the utmost caution, violent inflammation soon acceded, so as to require the removal of the leaden plates, and when after a few days the inflammatory symptoms had been subdued by an antiphlogistic treatment, the fingers were found to be as firmly united as before.

Six months afterwards they were again divided, and pledgets of lint, with the acetate of lead, placed in the intervals. After three days, however, the hands became so violently inflamed and swelled, as to render the further use of the bandage impossible, and after five days more, the inflammation having subsided, the operation was found to have completely failed.

At the urgent request of the patient, a third operation was performed. The fingers having been divided, the margins of the wound on each side were brought as near together as possible, and united by sutures and adhesive plaster; this method was, however, followed by the same result as the above; violent inflammation took place, the sutures broke through the edges of the wound, and the uniting bandage having been removed, such a profuse granulation ensued as to produce within eight days the union of the fingers in a manner which made any operation for the future impossible.

In another case, a large broad metallic ring, at the palmar part of which leaden wires were fixed, was applied round the metacarpus; the fingers were then divided at their extremities, and the threads having been brought into the wounds, were fixed at the dorsal side of the metallic ring, by means of screws, and daily, though very cautiously,

tightened; thus the fingers were gradually divided, antiphlogistic remedies being at the same time used to prevent inflammation; but in vain; the fingers were hardly divided down to the second phalanx, when the hand became swelled, and the wounds extremely painful. Cold applications, leeches, &c., were applied without any effect, until the whole apparatus was removed, five days after which, the fingers had united as before. The same method was employed on the left hand of the same individual, with this modification, that a puncture was made between the metatarsal extremities of the fingers, and the thread drawn in an opposite direction; the fingers were thus gradually divided, but almost immediately after the separation having taken place, profuse granulation ensued, and filled up the interval as firmly as before.

The following method was also employed, but with no better success: the middle and index fingers were divided, and kept apart from another by means of splints; the interval being filled up by a wedge of linen, covered with cerate. After six days, however, such a profuse granulation began at the angle of the wound, as actually to push back the wedge. Neither the application of the nitrate of silver, of burnt alum, nor the forcible tightening of the bandage, were able to counteract this tendency of Nature; and, after a short time, a large membranous mass had formed between the fingers, the movement of which had thus become still more confined than it had been before the operation.

The only method which proved successful, was that originally proposed by the late Von Kern, of Vienna: a triangular flap is formed between the metatarsal extremities of the fingers, the base of which is of about one-third, and the length about half an inch; the fingers are then separated by the knife, and the angle of the wound covered by the flap, which is kept in situ by a suture in the palm of the hand. The fingers are kept at the distance of about an inch at their extremity, and simply dressed with cerate. This method, Dr. Kriemer states, that he employed in three cases, with complete success.

The third method of operation is that recommended by M. Delpech for the separation of large cicatrices after extensive burns, and from which he asserts to have obtained complete success in several cases of very extensive scars, that, for instance, from a bubo, by the healing of which the thigh was fixed to the skin of the abdomen. It appears, however, that in the case of conjunction of the fingers, the sutures and uniting bandage will generally produce violent inflammation, and thus render the operation unsuccessful; and the same may be said of all the other contrivances by which the fingers are forcibly kept apart from each other. Dr. Von Kern's method is free from this objection, and at the same time effectually prevents profuse granulation, by healing that part of the wound from which it partially, if not entirely originates.

In recommending this method of Von Kern to the practitioners of this country, it may, perhaps, not be considered superfluous if we at the same time recommend its employment in the separation of large scars after burns, the reproduction of which is thus, perhaps, prevented more safely, and with less danger of violent inflammation, than by any other method.

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## LONDON MEDICAL SOCIETY.

*May 10th*, 1830.

Mr. Callaway in the Chair.

A case of prolapsus uteri was read on Monday evening last, of the particulars of which we are not in possession.

On the present evening, a case of displacement of the heart, and abscess in the lung, was related in three or four parts, by three or four gentlemen, under the cross-examination of three or four more, but which, from the very disjointed manner of its communication, was too imperfect for publication.

### POISONING BY PRUSSIC ACID.

Dr. Whiting mentioned a case of poisoning by this acid, where he had examined the body after death. The suicide, a man residing in the Borough, appeared to have been very determined in the act, as he had first swallowed a dose of the essential oil of almonds, which, failing in its purpose, was followed by the contents of an ounce-phial of prussic acid, apparently of Scheele's strength. The acid did not instantaneously destroy life, the man having walked from the counter of the shop, behind which he was standing, to the court of the house, a distance of about five yards, where he was found leaning against a wall. He was then partly conscious, and possessed sufficient voluntary power to keep on his legs, but died in a few minutes. The quantity of oil of almonds previously taken, was supposed to be two or three drachms, but its effects either appeared to have been very unimportant, or to have been wholly cast into the shade by the more powerful subsequent operation of the acid. It was assumed that he had taken the former, principally from the

fact, that a phial, known to have contained essential oil of almonds a short time previous, was found empty by the proprietor of the shop soon after the man's death.

The facts relative to the autopsy were simply these: that the stomach presented a "phlogosed," or highly excited state of the vessels of the mucous membrane and the upper intestines, and that the brain displayed an increased state of vascularity. There was not *much* serum effused, but only more than usual. The colour of the blood in the brain was not in the least altered. The turgidity of the stomach, Dr. Whiting explained, was not that of inflammation, but an unusual quantity of blood in the minute ramifications of the artery—a turgidity of the mucous membrane and upper part of the duodenum. All the mucous glands were remarkably large, standing up or projecting, particularly towards the large curvature of the stomach. One of the points most particularly attended to, was an attempt to detect prussic acid in the brain. After opening the stomach, in which of course the quantity was large, and the smell proportionably strong, the nose was carried gradually along the body, and in the brain the scent was discovered to be perfectly plain, though the detection of acid in it, by any other means, was not possible. Some of the fluid, both from the brain and stomach, was collected in a bottle, and carried by Dr. Whiting, on his way home, to a chemist, to be tested. Presenting the bottle, first, which contained the fluid from the brain, the chemist, on smelling it, immediately said the fluid contained prussic acid, from which there could be no doubt that that poison was present to a greater or less extent in the ventricles. Not a trace of it, however, could be detected by analysis. This is in accordance with the statement of Orfila, who says, that though discoverable by the smell in different parts of the body, the most delicate chemical test is inadequate to its detection.

It happened that ammonia was made use of immediately the indisposition of the man was discovered; not as an antidote to the prussic acid, however, but under an impression that he was merely affected with faintness. The intended remedy, of course, did not produce the least effect.

The rapidity with which fluid must have been formed in the brain, was thought, by the relater, worth attending to, as an indication of the prompt treatment which should be pursued in acute diseases terminating in effusion.

Mr. Stephens mentioned the result of some experiments in which he had administered the prussic acid to animals, the particulars of which will be found in the following extract from a letter, communicated to us by Mr. Stephens, shortly after the exposure of the impostor Chabert: "In attempting to destroy a pack of hounds, eighteen in number, amongst which rabies had made its appearance, I found that five, six, and eight drops, Scheele's strength, were sufficient to kill the majority only, the youngest dogs dying first. Others required a much larger dose, and three or four of them I could not kill at all by the acid. The latter fell down, and lay gasping for some time, but recovered, and took second and third doses, considerably increased, with the same result, and were ultimately compelled to be destroyed by other means. The conclusions I drew from these experiments were, that unless this acid produces its full effect *speedily*, it fails altogether, and that the constitutions of some dogs are almost proof against its influence. The same tenacity of life appears to characterise kittens, which I have also tried to poison in lieu of suffocating them. The animals were a few days old, and though they took several doses, were ultimately obliged to be drowned. With the same agent I readily destroyed a pheasant and some other birds, a piece of thread moistened with the acid, and applied to their throats, being amply sufficient for the purpose."

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GEORGE MANN BURROWS, M.D.

*To the Editor of* The Lancet.

Sir,—An association of medical men in Surrey, under the title of "The Surrey Benevolent Medical Society," and meeting yesterday at Epsom, have thought proper to address a letter to Dr. Burrows, of which the following is a copy, and at the same time directed me to request the favour of you to insert it in the next Number of The Lancet. I have the honour to be, Sir,

Your most obedient servant,

Thos. Martin, Sec.

Reigate, May 11th, 1830.

*To Dr. Burrows.*

Epsom, May 10th, 1830.

Sir,—The members of the Surrey Medical Society, in consequence of circumstances which have occurred, and from which you have been most strangely and unjustly misrepresented and traduced in the public newspapers, beg permission to express their sympathy, and the assurance of their most cordial and undiminished regard to you, as individually their friend, the friend of the society, of medical science, and of humanity.

Conscious of your integrity, and of the blameless, as well as praiseworthy, tenour of your professional conduct upon all occasions, you hardly stand in need of this assurance from such humble individuals; but you have been so hardly and unjustly treated by the public press in particular, that they consider your professional brethren may, without impropriety, state to you, that they are not forgetful of your former labours in behalf of the general practitioner, of the merits of your admirable writings, and of the friendship and kindness they have collectively and individually experienced at your hands.

Wishing you a long career of happiness, success, and of meritorious exertion on behalf of your suffering fellow-creatures, they remain

Your faithful friends and servants,

| | |
|---|---|
| John Parrot | Charles Cooper |
| Thomas Martin | Thomas B. Toovey |
| John N. Shelley | John W. Mayd |
| Geo. Fletcher | T. W. Montagu |
| James Tunstall | William Hart |
| Joseph Ward | W. Chaldecott |
| Geo. Bottomley | Thomas Steele |
| Edw. Wallace | Thomas Smith. |

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## ERGOT OF RYE.

### MR. WALFORD, MR. HAWKES, AND MR. EVANS.

*To the Editor of* THE LANCET.

SIR,—"Full of vacuity, and replete with nothing," Mr. Hawkes again devotes himself; and, as he seems to be in earnest, he may, perhaps, obtain some of the merit, with all the sufferings, of a martyr. He greatly wrongs me, by suspecting that I either hoped or apprehended a renewal of hostilities; to it, I was perfectly indifferent; and I should not now congratulate him on his re-appearance, but for the small injustice which he has done me, by misquoting what I said; and, by delivering *his* meaning for mine, reduced me to the necessity of disclaiming a responsibility I shall ever be unwilling to incur. In relating my experience, I was not unprepared for the opposition I have encountered; but, as I did not calculate upon misrepresentation, so I am not disposed to endure it. He says, I told him he neglected "the advice of those reasoners who prefer analogy to proof." I did no such thing: I told him he neglected "the advice of those reasoners who resorted to analogy for illustration, rather than for proof." This is upon record, so is his uncandid misrepresentation. Notwithstanding this injustice, I owe him no ill-will; in proof whereof, I advise him to beware of a contest, before he is perfectly acquainted with the worth of the object in whose service he may volunteer; and to adopt another precaution of trifling importance; namely, to inform himself of the precise strength of the adversary he may be about to engage. The very plain proposition, above quoted, he says, is unintelligible. I hope he does not blame the composition for that which is justly chargeable to himself alone: however perspicuous I might be, I could not pledge myself to make him understand me. Neither was it alien to the occasion, for he greatly needed the reproof; and if any thing can heighten my regret that it was necessary, it is, that his second letter proves him to be one of a large class, who profit as little by experience, as they teach by example.

He disavows any intention of impressing your readers with a high opinion of his reasoning powers. Has it not, ere now, occurred to Mr. Hawkes, that such an assurance was superfluous? He is pleased to disapprove of my sometimes using the language of others. To quotations I confess my partiality, and his repugnance will not overcome my predilection. But even he will allow my integrity; the inverted commas proclaim my obligation, and prove, that if I occasionally borrow another's mode of expression, I never refuse to acknowledge it.

Mr. Hawkes says he will not be convinced of the necessity for craniotomy in my cases. I shall not attempt it: it would be like "his own periods, labour without end." Besides, I am not intolerant; I cordially hate all kinds of conversion; it is a task rarely repaid by the value of the proselyte.

I infer that he holds it essential to the conditions requiring the use of the secale, that the fœtal head shall be *in* the pelvis; notwithstanding his ungracious reception of the only information I ever ventured to offer him, I forgive his ingratitude, and assure him that in this supposition he errs egregiously. I have elsewhere stated what I conceived to be requisite to *prove* the virtue of the ergot; and if I here admit that I may have required more than is absolutely necessary, its advocates must allow that it cannot be prejudiced by proofs more than enough. A great oversight is frequently committed by the believers in the efficacy of this medicine. They regard as a proof of its power, the termination of a labour *soon* after its exhibition; forgetting, that frequently, labour pains will cease, or diminish, they know not why; and be resumed, or increased, they know not wherefore. In such cases, after the exhibition of the secale, it is a very natural error for men, ignorant of the nature of *final causes*, to ascribe the event to the means employed; they seem to forget that the event would occur almost invariably; but *when*, they know not. A

given cause may have a particular effect; but, if we are previously ignorant of *when that* effect will ensue, and the circumstance *called* the effect be one that would occur from another, and always pre-existing cause, it will be exceedingly difficult to ascribe the effect to the cause, described by Dugald Stewart as efficient, in contra-distinction to final.

To Mr. Evans I have but little to say, for he has said but little. It were scarcely consistent with modesty and politeness to deny the correctness of his opinion of my dialectic powers; but, if I omit doing so, he is not, consequently, to conclude that I assent to the justness of his assertion. Also, if I say, whatever may be his admiration of dialectics, he has not written like a logician, he is too candid to infer therefrom a denial of the merit.

Harvey's theory was demonstrable; it ceases to be a theory, it is a fact; and owes its immortality to its truth, and its facility of proof. I am not disposed to allow that Jenner was neglected.

My courteous antagonist imposes a very singular task; to show, how a truth may be established, which is shown, by an invariable sequence upon an invariable antecedent. Of course he knows that proof, if possible, is superfluous; I need not remind him that such a case is a self-evident proposition. Will Mr. Evans affirm, that increased uterine action is the *invariable consequence* of the exhibition of the ergot of rye?

Mr. Evans quotes, "If nothing is claimed that is undue, nothing that is due should be withheld." He must agree with me, that the first member of the sentence might safely be dispensed with; as, claiming more than is due, can never justify the withholding of that which is deserved; consequently, if the specific efficacy of the secale could be *proved* in a small number of cases, its failure in a majority, would not discredit the minor amount of successful examples. It will be consolatory to Mr. Evans, that I have not forgotten the cases he alludes to; he will derive still greater satisfaction from my admission, that in those cases, "a certain condition of body existed before taking the secale;" more yielding still, I will allow that the "condition" was altered after taking the "standard medicine;" (which, by the way, is a misnomer) here, my concessions end; let him not require me to believe that the alteration was caused by the medicine; he knows it could have happened without; and if he has seen much midwifery practice, he has often seen it occur without the interposition of any other agency than the nurse's specific, hot tea, &c. Misconceive me not; I am not yet satisfied that the ergot is as valueless as the nostrums to which ignorance and prejudice still attach some importance.

Mr. Evans has seen eleven cases in which "he could not refer the iteration of the pains to any other cause than the medicine." I will not press him to say, whether his inability to refer an effect, to any other than a supposed cause, is a *proof* of that supposed cause being *the* cause of the effect. His dialectics will help him to an answer. I agree with him, that it is "good never to seek for more causes than would explain an effect:" in this, however, I see no reason to be contented with less than are necessary to prove it.

Dr. D. Davis was not brought forward "nolens volens," for, he was not consulted; neither was he brought forward as a "detractor to" (Mr. Evans means detractor from) the merit of the ergot of rye, he was merely produced as an example of a very competent judge, reasonably doubting that which is very difficult of proof, and which has not been proved to his satisfaction. I did not rest my scepticism on his incredulity, but merely adduced his example to please an opponent who was supported by authority solely.

Mr. Evans says, he must adduce an apposite (he means an opposite) authority, who states, he should not be surprised, if, in twenty years, the secale were to supersede the forceps. This is Mr. Mitchell's opinion, I do not quarrel with him for it. Because I "blaspheme custard," therefore should Mr. Mitchell forswear comfits? certainly not; and he will forgive me for a belief the antipodes to his own.

In Mr. Evans's letter, there is a passage which I cannot reconcile with his good wishes. He is angry that I do not add to my creed another article, "that when the brains were out the man would die." Now, I am not yet so orthodox as to be satisfied thereon: I have seen so many examples to the contrary, that I doubt Macbeth's assertion.

I remain, Sir, your obedient servant,

W. A. WALFORD

Speldhurst Street, Burton Crescent,
May 8th, 1830.

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## OBSTETRIC SOCIETY.

*To the Editor of* THE LANCET.

SIR,—It is now upwards of three years since you made the public acquainted with the existence of a society, whose only object, it was made to appear by your report of their proceedings, was to promote the *obstetric* art, and not the selfish interests of its members.

With intentions so laudable, and a chairman so remarkable for his disinterested zeal in his profession, and under the patronage of such *distinguished* names as Stone, Locock, Granville, and Ramsbotham, it was impossible that the society could fail in obtaining, *for the public*, the objects for which its members were associated. That the society was not idle, was proved by the alarm some time ago created at Whitehall, by a congregation of Doctors' carriages, which were seen at the Secretary of State's office, and which the *Morning Post* of the following day announced, to consist of a deputation from the Obstetric Society, which transacted business with Mr. Peel.

Now, Sir, as it has been rumoured that Mr. Peel has had much correspondence with the different corporations in this metropolis, and knowing *the private influence* by which he has been tempted, will you inform your readers of the momentous results of this society's labours, and the objects to which the money subscribed by the members has been devoted.

Of course no one can be base enough to insinuate that the society has relaxed its efforts on account of the "divine" elevation of its chairman; but, considering the eclat with which it commenced, does it not appear strange, that no results have yet been made public? Neither have you yet made known the effects produced on the Council of the College of Surgeons by Mr. Stone's letter.*

Pray, Sir, do excuse the inquiries of a

SUBORDINATE.

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TREATMENT OF A PUPIL AT THE LONDON HOSPITAL.

*To the Editor of* THE LANCET.

SIR,—I beg to be informed through the same medium as the complaint, of the name of the gentleman who is stated, at page 221 of your journal, to have received such unwarrantable usage from Sir W. Blizard; as until the circumstance be thus authenticated I cannot believe in the possibility of any servant of the institution behaving so unlike a gentleman, and assuming powers so foreign to the rights and duties of his appointment.

Upon receipt of this information the circumstance shall be investigated, and the possibility of its recurrence shall be effectually provided against.

I am, Sir, yours, &c.,

A LIFE GOVERNOR OF THE LONDON HOSPITAL.

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* *Vide* LANCET, vol. xi. p. 768.

## DERBY INFIRMARY.

[*From Mr. Godwin's Case-Book.*]

STRANGULATED FEMORAL HERNIA.

Elizabeth Woodward, æt. ——, was admitted the 21st of Feb. 1830. Says she has had hernia for two years, but that it was always returnable till Thursday last. Her present symptoms are great pain, on pressure, over the abdomen; constant sickness, and vomiting; the tumour is very painful; tongue loaded. Hab. enema nicotianæ statim:

℞ *Ammon. mur. potass. nitr.* aa. ʒij;
*Acet. distill.* ʒvj;
*Aq.* ʒx; ft. lotio sæpe utend.

The remedies not having any effect, it was deemed advisable to perform the operation, which was done at half-past 5 p. m. by Mr. Godwin.

℞ *Calomel*, gr. iv;
*Pulv. Opii*, gr. i;
*Ol. Cinnam.* gtt. i. confect. aromat. qs. ft. bol. s. s.

℞ *Magnes. sulph.* ʒix;
*Aq. menth. pip.* ʒviiss;
*Tinct. sennæ*, ʒss. M. capiat coch. larg. iii 4tis horis donec alvus responderit.

22. Has had three stools to-day; is free from pain this evening; abdomen distended with flatus; no tenderness on pressure; pulse quick; no sickness; tongue not so furred as yesterday.

*Pergat in usu mist. aper.*

23. Two o'clock A. M. Not so well; little or no pain, or tenderness over the abdomen; pain in the back; no sickness; has had another evacuation; very restless; pulse quick and *intermitting*; pale and anxious countenance; breathing regular; no headach.

*Habt. mist. salin. effervescent.* 3tis horis.
*Hab. haust. anodyn. cum tinct. opii gtt.* xxv. statim.

Let the abdomen be constantly fomented.

9 (A. M.) Rather better; has had some sleep, which has benefited her; pulse quick, but does not intermit.

*Cont. mist. effervescent.*

7 (P. M.) Much the same as in the morning.

℞ *Calomel*, gr. iv;
*Pulv. opii*, gr. 1½, ft. bol. h. s.s.
*Liniment, anodyn.* ʒii, abdom. applic.

24. Has had a good night, but appears very low; pulse quick, and small; bowels too open; has taken nourishment; free from pain; has parted with a good deal of flatus; abdomen not so tympanitic.

℞ *Confect. aromat.* ʒiv;
*Tinct. opii*, gtt. xl;
*Aq. menth.* p. ʒiv. M. Cap. 4tam part. quartis horis.

℞ *Ammon. carbon.* ʒi ;
*Spt. æther. vit.* C. ʒii ;
*Confect. aromat.* ʒi ;
*Infus. calumbæ*, ʒviiss. M. Capt. coch. larg. iii. 4tis horis.

To take beef-tea, and cordial nourishment. Two ounces of brandy, in twenty-four hours, in the beef-tea.

Died at two o'clock.

[*Note.*—No account of appearances after death.]

## ST. THOMAS'S HOSPITAL.

### HYDROPHOBIA.

Philip Styles, aged 30, was admitted into Edward's Ward on the 19th of April, under the care of Dr. Williams. It appeared that three months previously, whilst harnessing a dog, the animal, which had seemed dejected and out of health for a few days before, bit him in several places on both hands; it then escaped, and meeting a boy, bit him also in several parts, but was secured without doing further mischief. The man had all the wounds (amounting to seven or eight in number) excised, excepting one near the root of the nail of the ring-finger, on the right hand. Nothing was done for the boy, and, in a few days, symptoms of hydrophobia manifested themselves, and he died decidedly rabid. The dog also, after having been secured, was watched; the patient stated that it showed a depraved appetite, eating its own excrement, foaming at the mouth, and snapping savagely at everything within its reach, and was unable to swallow any fluid, on which account it was killed. The medical gentleman who had excised the wounds of the present patient, saw nothing more of him until the day before his admission into the hospital, when he applied to him with pain and stupor in the head, cramp in different parts of the body, particularly in the legs; there was also a great sense of dryness about the fauces, and difficulty of deglutition. The patient states that he was bled and purged. When admitted, he was labouring under the symptoms above described, but, in addition, complained of great pain and stiffness at the back of the neck. He was still under the influence of the purge. Mr. R. Whitfield ordered him a drachm and a half of tincture of opium, and a blister to the nape of the neck.

April 20. The sense of stiffness and cramp has diminished; his bowels have been purged twice this morning; the motions green, fluid, and offensive; his principal symptom now, is a violent racking pain at the epigastrium, increased on pressure; on examining, we could discover no enlargement of the salivary glands, but the mouth clammy, and filled with a thick tenacious mucus; he shows no objection to fluid, but, on the contrary, assuages his thirst (which is considerable) with frequent and copious draughts of water. The countenance is flushed, turgid, and livid, and the head is still heavy. It was from the history of the case, rather than from the present symptoms, that Dr. Williams, who saw him for the first time to-day, ordered him veratri albi gr. iij. quartâ quâque horâ. Towards evening, the pain at the epigastrium had increased, whilst the other symptoms remained as before. Mr. R. Whitfield suspended the hellebore, and ordered twenty leeches to the seat of pain, and saline mixture every four hours.

21. Considerably better; the pain much diminished; has no difficulty of deglutition, nor does he show any of that irritability of the nervous system, which is generally noticed on the approach of hydrophobia; on the contrary, there is rather a tendency to stupor. The history of the case was, therefore, disregarded in the treatment, and the symptoms alone attended to; the bowels were kept relaxed, and the diet low. He continued gradually to improve, and, on the 25th, left the house.

## ANATOMICAL PRIZE AT THE ALDERSGATE STREET SCHOOL.

*To the Editor of* The Lancet.

Sir,—There is an error in the table of contents upon the cover of the last number of The Lancet, with respect to the anatomical prize of the Aldersgate Street Medical School, which I trust to your love of accuracy to correct, without delay. The prize was not given by me, but by Mr. Tyrrell, who, in selecting the questions and leaving it to my able colleague Evans and myself to decide on the answers, acted, you will, I am sure, admit, in conformity with his well-known impartial character, and in accordance with the recommendation you made on this subject in a recent number of your important Journal.

Yours faithfully,

T. King.

10, Hanover Street, Hanover Square.
May 11, 1830.

## TO CORRESPONDENTS.

COMMUNICATIONS have been received from Mr. Gilbert—Mr. Dix—Mr. Leonard Horner—Amicus—X—Mr. J. J. G. Fisher—Medicus Juvenis—Veritas—Alpha—Mr. J. L. Levison—Mr. Thomas Wright—Mr. Mc Carthy—C.S.—An Assistant—Mr. John White—Tyro—Chirurgus—Mr. Fosbroke—A Student, 9—A Bedfordshire Surgeon—Mr. Jennings—Dumax—Mr. Harcourt—Mr. Statham—Mr. Cross—Mr. A. Newman—Mr. H. Westall—Dr. Pasford—Dr. Downing.

*An Old Subscriber.* The *mudar* may be purchased of Mr. Mackenzie, 73, Cornhill.

*Anti-Humbug* complains of a charge made at the College of Surgeons, for one cup of coffee and one muffin, which are supplied to each candidate for the diploma, on the evenings of examination. He is astonished that the Council should permit such a nefarious practice. If he were acquainted with some of their other practices, his astonishment would cease. *We* are not "astonished" at it. The only way to avoid the indecent demand is, not to go to the College at all. Although the coffee and the muffin are certainly not worth five shillings, they are still of more value than the diploma. There will be another College in London which will supply diplomas worth having before Christmas next.

*Puck.* The charge we understand is usual. The management of the cover is entirely to the publisher.

*Mr. Charles Phillips.* A portion of the brain may be lost, without producing death, or even apparent injury to the faculties of the mind.

*C. R. L.* A testimonial from the parties to whom he is bound, of a six years' attention to even such professional duties, will be received at the College.

*An Assistant.* The evil is caused by an over-supply arising from the negligence of the Apothecaries Company. We fear that if an association were formed, it would not be followed by any beneficial results, but we would certainly promote the objects of it by every means in our power.

*C. S.* We really are not acquainted with any single work which will supply him with the information he seeks.

*Students.* He may purchase both Collier's and Underwood's with advantage.

*Mr. J. T.* The delinquent may be taken before a magistrate, who would be fully authorised to punish him if the allegations in the letter were proved.

*Mr. J. S.*, Chemist. We are not surprised that Mr. Bransby Cooper sends his prescriptions to a particular druggist, but we are somewhat surprised that he has any prescriptions to write. It is in the course, however, we suppose, of the "charitable" *morning* practice. This young man applied to be surgeon to the new police, but he was soon *cut* by the Commissioners.

*A Medical Student.* With great economy, the expense of passing the two institutions cannot be less than a hundred and fifty pounds. The salaries of medical assistants are extremely low; from twenty pounds and upwards. He need not fear the Apothecaries' Company.

*Inquirer.* We can state positively that, of the fifteen names inserted upon the card, Mr. Andrews, Mr. Snow, Mr. Tatham, Mr. Harwood, Mr. Landells, Mr. Walford, and Mr. Bainbridge, had resigned *before* Friday, April 30th.

Upon reflection, *Mr. Dewhurst* will, probably, think with us, that after what has already passed, the insertion of his present letter would not tend to promote the object he has in view.

LONDON HOSPITAL.—A pupil makes the following complaint on the subject of Mr. Luke, in the hope that those who may have any intention of entering to this hospital, may know what they have to expect there. "There is one subject of which I have heard no mention made in the pages of THE LANCET, but which has existed all this winter, to the great injury and inconvenience of the pupils; I allude to the shameful irregularity of Mr. Luke in delivering the anatomical lectures; for after some of the pupils have walked two or three miles to attend them they very often have either to wait in the theatre for half or three quarters of an hour, and then find there is no lecture; or if there is to be one at all, it is generally, if not always, a quarter of an hour or twenty minutes after the proper time; in both cases creating a great waste of their time, and in the former altogether a fraud. As an example of this fact, last week alone three lectures were missed, and during the two courses the number was proportionately great. Of course I am fully aware that it is now too late in the season for the amendment of the evils to which I have alluded, but as, in all probability, I shall not be in attendance at the lectures of this hospital another winter, I have thought it proper not to forego the duty of exposing a great abuse to which the pupils of this hospital have long been subject, and to which, I judge from his character, they will continue liable as long as Mr. Luke remains a lecturer."

METAMORPHOSIS.—A certain reader of lectures at first started a carriage with his uncle's livery, &c. &c., he has now adopted that of the new police; he is, therefore, at present known as "blue-stone" instead of "Lapis Infernalis."

Other correspondents must stand over until our next.